



Formosa Plastics®

Formosa Plastics Corporation, Texas  
201 Formosa Drive • P.O. Box 700  
Point Comfort, TX 77978  
Telephone: 361-987-7000

July 30, 2019

Certified Mail: 7018 2290 0000 0529 6142  
Air Section Manager, Region 14  
Texas Commission Environmental Quality  
6300 Ocean Drive, Suite 1200  
Corpus Christi, Texas 78412

RE: Formosa Plastics Corporation, Texas  
TCEQ Air Quality Account No. CB-0038-Q  
Second Quarter 2019 SUMMA Canister Report

Dear Air Section Manager:

Per your request, we have enclosed a quarterly summary of results from the Point Comfort SUMMA Canister Monitoring System. The second quarter of 2019 results are shown for each site on the attached tables. Additionally, we have included wind roses generated by the weather sensor on the FTIR or wind direction data from other air monitoring devices for each SUMMA canister sampling date during the second quarter of 2019.

Beginning with the first sample date in the fourth quarter 2003, we have also included average wind speed and wind direction on the tables. This was done at the request of Mr. David Carmichael of the TCEQ Austin office. In addition, at the request of Mr. Carmichael, the following changes have been made to the tables:

The duplicate sample data for all compounds has been removed from the VOC Canister Analysis Tables;

The averaged duplicate sample data was replaced with only the routine sample data in the VOC Canister Analysis Tables; and

An additional VOC Canister Analysis Table was created for the duplicate samples data. This was done so that the relative percent difference (RPD) could be calculated. The calculation for obtaining the RPD is shown in the Duplicate Sample section of the attached Calculation Methodology.

During a telephone conversation with Mr. Vincent Leopold (TCEQ TARA Group) on April 9, 1998, he requested a disk copy of the SUMMA Canister sampling results be included with the quarterly report. Enclosed is an electronic copy of the second quarter 2019 SUMMA Canister Report.

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Should you have any questions please contact Vanessa Peppers by e-mail at [VanessaP@ftpc.fpcusa.com](mailto:VanessaP@ftpc.fpcusa.com).

Sincerely,



Rick Crabtree  
Vice President/General Manager  
Formosa Plastics Corporation, Texas

Attachments



July 30, 2019

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cc: Dr. Tracie Phillips  
Toxicology Division  
Texas Commission on Environmental Quality  
P. O. Box 13087  
Austin, Texas 78711-3087

Certified Mail: 7018 2290 0000 0529 6159

# FORMOSA PLASTICS CORPORATION, TEXAS

## SUMMA CANISTER QUARTERLY REPORT

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### CALCULATION METHODOLOGY

Following is the calculation methodologies used to calculate the Year-To-Date Sum and Year-To-Date Average for the four SUMMA canister sampling sites. Please note, there are two columns associated with each component analyzed. The column titled "Actual" represents the results reported by the independent laboratory contracted to analyze the SUMMA canisters. The column titled "½ Reported LOD (Limit of Detection)" represents either the actual result or one-half the limit of detection reported by the laboratory, as appropriate.

#### ACTUAL

The following is entered into the column titled "Actual":

Numerical Value - Actual results reported by the independent laboratory when the result is equal to or greater than the limit of detection. The numerical value is used to calculate the year-to-date sum and the year-to date average;

ND (Non Detect) - As reported by the laboratory. The value of "0" is used to calculate the year to date sum and the year-to-date average;

BDL (Below Detection Limit) - Entered when the actual result is less than the reported limit of detection. The value of "0" is used to calculate the year-to-date sum and the year-to-date average;

"\*" - Non operational sampling period.

#### ½ REPORTED LOD (LIMIT OF DETECTION)

The following is entered into the column titled "½ Reported LOD":

Numerical Value - Actual results reported by the independent laboratory when the result is equal to or greater than the limit of detection. The numerical value is used to calculate the year-to-date sum and the year-to-date average;

½ the Reported Limit of Detection - ½ the reported limit of detection when the results are reported as non-detect and when the actual result is below the detection limit (BDL). ½ the reported limit of detection is used to calculate the year-to-date sum and the year-to-date average.

"\*" - Non operational sampling period.

## **FORMOSA PLASTICS CORPORATION, TEXAS**

### **SUMMA CANISTER QUARTERLY REPORT**

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Limit of Detection (LOD) - Method Detection Limit, Limit of Detection, Reporting Limit, etc... as reported by the independent laboratory conducting the analysis.

#### **DUPLICATE SAMPLES**

Beginning with the revised First Quarter 2004 Report, submitted on October 22, 2004, the duplicate samples will be reported discreetly on a separate VOC Canister Analysis Table. This is done so that the duplicate samples can be compared to the routine samples and the Relative Percent Difference (RPD) can be calculated. The RPD is calculated using the following equation:

$$\{(X1-X2) / [(X1+X2) / 2]\} \times 100$$

Mr. David Carmichael provided this equation in his August 20, 2004 e-mail request for changes. Where the duplicate and routine sample indicated "ND", the RPD is reported as "ND". Where the duplicate or routine sample indicated "ND" and the other indicated a concentration greater than ND, the RPD is calculated by using the value entered in the actual concentration column and the value entered in the 1/2 Reported LOD column.

#### **YEAR-TO-DATE SUM**

The year-to-date sum is calculated by taking the sum of all values entered in the column.

#### **YEAR-TO-DATE AVERAGE**

The following formula is used to calculate the year-to-date average:

Year-To-Date Sum / (Number of theoretical sample periods - Number of non operational sample periods)

**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**POINT COMFORT - CITY HALL SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
7/4/2018	126	7.1	ND	0.0500	ND	0.1250	0.1020	0.8600	0.8600	6.1100	6.1100	
7/10/2018	121	4.6	ND	0.0500	ND	0.1250	0.3820	ND	0.0500	ND	0.0500	
7/16/2018	153	5.9	ND	0.0500	ND	0.1250	0.2210	ND	0.0500	0.1760	0.1760	
7/22/2018	176	5.7	ND	0.0500	ND	0.1250	0.1850	ND	0.0500	0.1990	0.1990	
7/28/2018	133	4.0	ND	0.0500	ND	0.1250	ND	ND	0.0500	ND	0.0500	
8/3/2018	107	4.1	ND	0.0500	ND	0.1250	0.3850	0.6580	0.6580	0.7690	0.7690	
8/9/2018	138	5.6	ND	0.0500	ND	0.1250	ND	ND	0.0500	ND	0.0500	
8/17/2018	135	6.0	ND	0.0500	ND	0.1250	0.2890	ND	0.0500	ND	0.0500	
8/21/2018	155	5.4	ND	0.0500	ND	0.1250	0.1220	ND	0.0500	ND	0.0500	
8/29/2018	121	4.3	ND	0.0500	ND	0.1250	ND	ND	0.0500	0.1020	0.1020	
9/6/2018	91	1.8	ND	0.0500	ND	0.1250	0.1930	0.7720	0.9860	0.9860	0.9860	
9/12/2018	60	4.6	ND	0.0500	ND	0.1250	0.1530	ND	0.0500	0.1100	0.1100	
9/18/2018	187	1.3	*	*	*	*	*	*	*	*	*	
9/24/2018	115	4.5	ND	0.0500	ND	0.1250	0.1490	ND	0.0500	ND	0.0500	
9/30/2018	65	2.2	ND	0.0500	ND	0.1250	0.3390	2.3200	2.3200	1.2400	1.2400	
10/6/2018	126	7.1	*	*	*	*	*	*	*	*	*	
10/12/2018	88	5.1	ND	0.0500	ND	0.1250	0.4490	0.7060	0.7060	2.0900	2.0900	
10/18/2018	343	4.9	0.6490	0.6490	ND	0.1250	0.6530	0.9220	0.9220	ND	0.0500	
10/26/2018	249	1.5	0.6510	0.6510	ND	0.1250	0.3480	0.3960	0.3960	0.1230	0.1230	
11/1/2018	324	6.2	*	*	*	*	*	*	*	*	*	
11/7/2018	157	4.8	ND	0.0500	0.275	0.2750	0.1720	ND	0.0500	ND	0.0500	
11/13/2018	321	7.6	ND	0.0500	ND	0.1250	0.1190	ND	0.0500	ND	0.0500	
11/17/2018	88	4.5	*	*	*	*	*	*	*	*	*	
11/25/2018	316	3.0	ND	0.0500	ND	0.1250	0.2070	ND	0.0500	ND	0.0500	
12/1/2018	240	2.7	ND	0.0500	ND	0.1250	0.1750	ND	0.0500	0.1220	0.1220	
12/7/2018	102	1.9	ND	0.0500	ND	0.1250	0.2320	ND	0.0500	ND	0.0500	
12/13/2018	235	6.7	ND	0.0500	ND	0.1250	0.1500	ND	0.0500	ND	0.0500	
12/19/2018	15	1.7	ND	0.0500	ND	0.1250	0.2280	0.1510	0.1510	0.2110	0.2110	
12/25/2018	106	5.9	ND	0.0500	ND	0.1250	0.1090	ND	0.0500	ND	0.0500	
1/23/2019	334	4.2	ND	0.0500	ND	0.1250	0.1970	ND	0.0500	ND	0.0500	
1/6/2019	118	5.8	ND	0.0500	ND	0.1250	0.1010	ND	0.0500	ND	0.0500	
1/12/2019	307	4.4	ND	0.0500	ND	0.1250	0.1640	ND	0.0500	ND	0.0500	
1/18/2019	144	5.2	ND	0.0500	ND	0.1250	0.2950	ND	0.0500	ND	0.0500	
1/24/2019	90	5.1	ND	0.0500	ND	0.1250	0.2110	ND	0.0500	ND	0.0500	
2/5/2019	42	7.8	0.1080	0.1080	ND	0.1250	0.3230	0.4010	0.4010	1.5400	1.5400	
2/11/2019	125	5.9	ND	0.0500	ND	0.1250	ND	ND	0.0500	ND	0.0500	
2/17/2019	140	2.2	ND	0.0500	ND	0.1250	0.2050	0.1930	0.1930	ND	0.0500	
2/23/2019	336	5.3	ND	0.0500	ND	0.1250	0.4200	0.2920	0.2920	ND	0.0500	
2/23/2019	197	1.2	*	*	*	*	*	*	*	*	*	
3/1/2019	357	3.2	0.9830	0.9830	ND	0.1250	0.3320	0.9570	0.9570	0.1900	0.1900	
3/7/2019	113	4.2	*	*	*	*	*	*	*	*	*	
3/13/2019	140	9.4	*	*	*	*	*	*	*	*	*	
3/19/2019	57	6.7	*	*	*	*	*	*	*	*	*	
3/25/2019	142	3.2	*	*	*	*	*	*	*	*	*	
3/31/2019	337	6.4	*	*	*	*	*	*	*	*	*	

# FORMOSA VOC CANISTER ANALYSIS 2nd QUARTER 2019 POINT COMFORT - CITY HALL SITE

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
4/6/2019	103	8.2	*	*	*	*	*	*	*	*	*	*
4/12/2019	83	6.9	*	*	*	*	*	*	*	*	*	*
4/18/2019	242	9.0	6.6500	6.6500	ND	0.0304	0.2630	0.2630	0.2640	0.2640	0.4410	0.4410
4/24/2019	119	8.0	2.4100	2.4100	ND	0.0303	0.1530	0.1530	0.0626	0.0626	ND	0.0303
4/30/2019	115	11.2	*	*	*	*	*	*	*	*	*	*
5/6/2019	101	5.1	0.6110	0.6110	ND	0.0315	0.1480	0.1480	0.1020	0.1020	0.1630	0.1630
5/12/2019	255	5.0	1.1200	1.1200	ND	0.0313	0.1580	0.1580	0.2260	0.2260	0.3010	0.3010
5/18/2019	124	10.3	1.8600	1.8600	ND	0.0313	ND	0.0313	ND	0.0313	ND	0.0313
5/24/2019	113	10.2	0.2350	0.2350	ND	0.0309	0.7880	0.7880	ND	0.0309	ND	0.0309
5/30/2019	111	6.3	0.3580	0.3580	ND	0.0302	0.1610	0.1610	ND	0.0302	ND	0.0302
6/5/2019	226	4.5	1.1300	1.1300	ND	0.0321	0.1040	0.1040	0.1350	0.1350	ND	0.0321
6/11/2019	225	4.4	3.3700	3.3700	ND	0.0356	0.3230	0.3230	0.5110	0.5110	0.6510	0.6510
6/17/2019	157	5.1	2.8500	2.8500	ND	0.0355	0.1840	0.1840	0.1240	0.1240	2.6100	2.6100
6/23/2019	136	9.4	0.1890	0.1890	ND	0.0320	ND	0.0320	ND	0.0320	ND	0.0320
6/29/2019	165	4.1	0.6510	0.6510	ND	0.0629	0.1220	0.1220	ND	0.0629	0.1750	0.1750

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	23.8250	25.3750	0.2750	4.9387	10.2140	10.4772	10.0526	11.3898	18.3090	19.5456
Rolling Year Average	0.5069	0.5399	0.0059	0.1051	0.2173	0.2229	0.2139	0.2423	0.3896	0.4159
Annual Average	1.0726	1.0893	0.0000	0.0733	0.2121	0.2175	0.1556	0.1764	0.2891	0.3146
Number of theoretical sample periods	60	60	60	60	60	60	60	60	60	60
Number of non operational sample periods	13	13	13	13	13	13	13	13	13	13

Number of theoretical sample periods  
Number of non operational sample periods

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

TCEQ Air Monitoring Comparison Values (ppb)			Investigation
Chemical	ST	LT	Limit (ppb)
Vinyl Chloride	27,000	0.47	25
Ethylene Dichloride	94	0.72	29.7
Benzene	180	1.4	28.2
Ethylene	500,000	30	500
1, 3 Butadiene	1,700	9	25



**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**POINT COMFORT - CITY HALL**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
07/16/18	153	5.9	ND	0.0500	ND	0.1250	0.2210	0.2210	ND	0.0500	0.1760	0.1760
07/16/18 <sub>a</sub>	153	5.9	ND	0.0500	ND	0.1250	0.2380	0.2380	ND	0.0500	0.1720	0.1720
Relative Percent Difference (RPD)			ND		ND		-7.4074		ND		2.2989	
09/30/18	65	2.2	ND	0.0500	ND	0.1250	0.5390	0.5390	2.3200	2.3200	1.2400	1.2400
09/30/18 <sub>a</sub>	65	2.2	ND	0.0500	ND	0.1250	0.5620	0.5620	2.3100	2.3100	1.1400	1.1400
Relative Percent Difference (RPD)			ND		ND		-4.1780		0.4320		8.4034	
11/01/18	324	6.2	*	*	*	*	*	*	*	*	*	*
11/01/18 <sub>a</sub>	324	6.2	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	
12/25/18	106	5.9	ND	0.0500	ND	0.1250	0.1090	0.1090	ND	0.0500	ND	0.0500
12/25/18 <sub>a</sub>	106	5.9	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	
01/30/19	42	7.8	0.1080	0.1080	ND	0.1250	0.3230	0.3230	0.4010	0.4010	1.5400	1.5400
01/30/19 <sub>a</sub>	42	7.8	ND	0.0500	ND	0.1250	0.3650	0.3650	0.5020	0.5020	1.7300	1.7300
Relative Percent Difference (RPD)			73.4177		ND		-12.2093		-22.3699		-11.6208	
05/30/19	111	6.3	0.3580	0.3580	ND	0.0302	0.1610	0.1610	ND	0.0302	ND	0.0302
05/30/19 <sub>a</sub>	111	6.3	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
7/4/2018	126	7.1	*	*	*	*	*	*	*	*	*	*
7/10/2018	121	4.6	ND	0.0500	ND	0.1250	0.2370	0.0500	ND	0.0500	ND	0.0500
7/16/2018	153	5.9	ND	0.0500	ND	0.1250	0.2580	0.0500	ND	0.0500	0.1030	0.1030
7/22/2018	176	5.7	ND	0.0500	ND	0.1250	0.1080	0.0500	ND	0.0500	0.1330	0.1330
7/28/2018	133	4.0	ND	0.0500	ND	0.1250	0.1810	0.0500	ND	0.0500	ND	0.0500
8/3/2018	107	4.1	ND	0.0500	ND	0.1250	0.2720	0.0500	1.6000	1.6000	0.1470	0.1470
8/9/2018	138	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1350	0.1350
8/17/2018	135	6.0	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.2690	0.2690
8/21/2018	155	5.4	ND	0.0500	ND	0.1250	0.1340	0.0500	ND	0.0500	ND	0.0500
8/29/2018	121	4.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1020	0.1020
9/6/2018	91	1.8	ND	0.0500	ND	0.1250	0.3340	0.0500	0.7480	1.2500	1.2500	1.2500
9/12/2018	60	4.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1140	0.1140
9/18/2018	187	1.3	*	*	*	*	*	*	*	*	*	*
9/24/2018	115	4.5	ND	0.0500	ND	0.1250	0.1860	0.0500	ND	0.0500	ND	0.0500
9/30/2018	65	2.2	ND	0.0500	ND	0.1250	0.6890	0.0500	2.7400	2.7400	2.2600	2.2600
10/6/2018	126	7.1	*	*	*	*	*	*	*	*	*	*
10/12/2018	88	5.1	ND	0.0500	ND	0.1250	0.4090	0.0500	1.3300	1.3300	3.9700	3.9700
10/18/2018	343	4.9	1.2200	1.2200	ND	0.1250	0.5310	0.0500	1.3900	1.3900	ND	0.0500
10/26/2018	249	1.5	*	*	*	*	*	*	*	*	*	*
11/1/2018	324	6.2	*	*	*	*	*	*	*	*	*	*
11/11/2018	24	6.2	ND	0.0500	ND	0.1250	0.5490	0.0500	0.6790	0.6790	0.3280	0.3280
11/17/2018	88	4.5	ND	0.0500	ND	0.1250	0.1320	0.0500	ND	0.0500	ND	0.0500
11/23/2018	46	0.4	ND	0.0500	ND	0.1250	0.2610	0.0500	0.7120	0.7120	0.6110	0.6110
11/29/2018	145	3.2	ND	0.0500	0.272	0.2720	0.4590	0.0500	ND	0.0500	0.3840	0.3840
12/1/2018	240	2.7	ND	0.0500	ND	0.1250	0.2100	0.0500	ND	0.0500	ND	0.0500
12/7/2018	102	1.9	*	*	*	*	*	*	*	*	*	*
12/13/2018	235	6.7	ND	0.0500	ND	0.1250	0.1570	0.0500	ND	0.0500	ND	0.0500
12/19/2018	15	1.7	ND	0.0500	ND	0.1250	0.2440	0.0500	0.1320	0.1320	0.4010	0.4010
12/25/2018	106	5.9	ND	0.0500	ND	0.1250	0.1430	0.0500	ND	0.0500	ND	0.0500
12/31/2018	334	4.2	ND	0.0500	ND	0.1250	0.2340	0.0500	ND	0.0500	ND	0.0500
1/6/2019	118	5.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
1/12/2019	307	4.4	ND	0.0500	ND	0.1250	0.2620	0.0500	ND	0.0500	ND	0.0500
1/18/2019	144	5.2	ND	0.0500	ND	0.1250	0.3130	0.0500	ND	0.0500	0	



# FORMOSA VOC CANISTER ANALYSIS

## 2nd QUARTER 2019

### POINT COMFORT - FORMOSA TRAINING COMPLEX

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
4/6/2019	103	8.2	*	*	*	*	*	*	*	*	*	*
4/12/2019	83	6.9	*	*	*	*	*	*	*	*	*	*
4/18/2019	242	9.0	6.0400	6.0400	ND	0.0311	0.1930	0.1930	0.2730	0.2730	0.3740	0.3740
4/24/2019	119	8.0	1.5800	1.5800	ND	0.0595	0.1110	0.1110	0.0836	0.0836	ND	0.0595
4/30/2019	115	11.2	0.3980	0.3980	ND	0.0309	0.1440	0.1440	ND	0.0309	ND	0.0309
5/6/2019	101	5.1	0.9630	0.9630	ND	0.0318	0.1420	0.1420	0.2020	0.2020	0.1400	0.1400
5/12/2019	255	5.0	0.9540	0.9540	ND	0.0304	0.1550	0.1550	0.4020	0.4020	0.1920	0.1920
5/18/2019	124	10.3	0.4150	0.4150	ND	0.0315	ND	0.0315	ND	0.0315	ND	0.0315
5/24/2019	113	10.2	0.3510	0.3510	ND	0.0310	0.1020	0.1020	ND	0.0310	ND	0.0310
5/30/2019	111	6.3	2.4600	2.4600	ND	0.0301	0.5210	0.5210	ND	0.0301	1.3500	1.3500
6/5/2019	226	4.5	0.8630	0.8630	ND	0.0303	0.1200	0.1200	0.0808	0.0808	0.1300	0.1300
6/11/2019	225	4.4	2.4400	2.4400	ND	0.0343	0.2230	0.2230	0.5690	0.5690	0.4410	0.4410
6/17/2019	157	5.1	2.5600	2.5600	ND	0.0355	0.1730	0.1730	0.1150	0.1150	1.8900	1.8900
6/23/2019	136	9.4	0.2720	0.2720	ND	0.0333	0.1750	0.1750	ND	0.0333	ND	0.0333
6/29/2019	165	4.1	0.8770	0.8770	ND	0.0319	0.2200	0.2200	ND	0.0319	0.1860	0.1860

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	21.3930	23.0430	0.9560	5.3973	9.9620	10.2435	12.1614	13.5000	15.8590	16.8952
Rolling Year Average	0.4552	0.4903	0.0203	0.1148	0.2120	0.2179	0.2588	0.2872	0.3374	0.3595
Annual Average	0.8771	0.8988	0.0297	0.0978	0.1841	0.1876	0.1231	0.1465	0.2457	0.2691

Number of theoretical sample periods

Number of non operational sample periods

60

13

60

13

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

TCEQ Air Monitoring Comparison Values (ppb)			Investigation Limit (ppb)
Chemical	ST	LT	
Vinyl Chloride	27,000	0.47	25
Ethylene Dichloride	94	0.72	29.7
Benzene	180	1.4	28.2
Ethylene	500,000	30	500
1,3 Butadiene	1,700	9	25

**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**POINT COMFORT - FORMOSA TRAINING COMPLEX**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
07/22/18	176	5.7	ND	0.0500	ND	0.1250	0.1080	0.1080	ND	0.0500	0.1330	0.1330
07/22/18d	176	5.7	ND	0.0500	ND	0.1250	0.1190	0.1190	ND	0.0500	0.1490	0.1490
Relative Percent Difference (RPD)			ND		ND		-9.6916		ND		-11.3475	
08/09/18	138	5.6	ND	0.0500	ND	0.1250	ND	ND	ND	0.0500	0.1350	0.1350
08/09/18d	138	5.6	ND	0.0500	ND	0.1250	ND	ND	ND	0.0500	0.1750	0.1750
Relative Percent Difference (RPD)			ND		ND		ND		ND		-25.8065	
09/12/18	60	4.6	ND	0.0500	ND	0.1250	ND	ND	ND	0.0500	0.1140	0.1140
09/12/18d	60	4.6	ND	0.0500	ND	0.1250	ND	ND	ND	0.0500	0.1130	0.1130
Relative Percent Difference (RPD)			ND		ND		ND		ND		0.8811	
10/18/18	343	4.9	1.2200	1.2200	ND	0.1250	0.5310	0.5310	1.3900	1.3900	ND	0.0500
10/18/18d	343	4.9	0.5900	0.5900	ND	0.1250	0.4390	0.4390	1.3400	1.3400	ND	0.0500
Relative Percent Difference (RPD)			69.6133		ND		18.9691		3.6630		ND	
01/06/19	118	5.8	ND	0.0500	ND	0.1250	ND	ND	ND	0.0500	ND	0.0500
01/06/19d	118	5.8	ND	0.0500	ND	0.1250	0.3830	0.3830	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		-153.8106		ND		ND	
02/05/19	125	5.9	ND	0.0500	0.6840	0.6840	0.1170	0.1170	ND	0.0500	ND	0.0500
02/05/19d	125	5.9	ND	0.0500	ND	0.1250	ND	ND	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		138.1953		80.2395		ND		ND	
06/17/19	157	5.1	2.5600	2.5600	ND	0.0355	0.1730	0.1730	0.1150	0.1150	1.8900	1.8900
06/17/19d	157	5.1	2.8100	2.8100	ND	0.0343	0.1780	0.1780	0.1190	0.1190	1.8300	1.8300
Relative Percent Difference (RPD)			-9.3110		ND		-2.8490		-3.4188		3.2258	

d - Duplicate sample taken in addition to the routine sample (See Calculation Methodology for information on inclusion of duplicate sample results.)

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available



SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE			1,3 BUTADIENE			BENZENE			VINYL CHLORIDE			ETHYLENE DICHLORIDE		
			Actual (ppb)	1/2 Reported LOD (ppb)	LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	LOD (ppb)
7/4/2018	126	7.1	ND	0.0500		ND	0.1250	0.3940	0.1250	0.3940	ND	1.0300	1.0300	ND	0.0500	0.0500	
7/10/2018	121	4.6	ND	0.0500		ND	0.1250	0.1750	0.1250	0.1750	ND	0.0500	0.0500	ND	0.0500	0.0500	
7/16/2018	153	5.9	ND	0.0500		ND	0.1250	0.1600	0.1250	0.1600	ND	0.0500	0.0500	ND	0.1010	0.1010	
7/22/2018	176	5.7	ND	0.0500		ND	0.1250	0.1020	0.1250	0.1020	ND	0.0500	0.0500	ND	0.0500	0.0500	
7/28/2018	133	4.0	ND	0.0500		ND	0.1250	0.2490	0.1250	0.2490	ND	0.2380	0.2380	ND	0.6500	0.6500	
8/3/2018	107	4.1	ND	0.0500		ND	0.1250	0.3470	0.1250	0.3470	ND	1.1700	1.1700	ND	0.6730	0.6730	
8/9/2018	138	5.6	ND	0.0500		ND	0.1250	ND	0.1250	0.0500	ND	0.0500	0.0500	ND	0.0500	0.0500	
8/17/2018	135	6.0	ND	0.0500		ND	0.1250	0.1150	0.1250	0.1150	ND	0.0500	0.0500	ND	0.0500	0.0500	
8/21/2018	155	5.4	ND	0.0500		ND	0.2500	ND	0.2500	0.0500	ND	0.0500	0.0500	ND	0.0500	0.0500	
8/29/2018	121	4.3	ND	0.0500		ND	0.1250	0.1940	0.1250	0.1940	ND	0.0500	0.0500	ND	0.1040	0.1040	
9/6/2018	91	1.8	ND	0.0500		ND	0.1250	0.1080	0.1250	0.1080	ND	0.3670	0.3670	ND	0.1590	0.1590	
9/12/2018	60	4.6	*	*		*	*	*	*	*	*	*	*	*	*	*	
9/18/2018	187	1.3	ND	0.0500		ND	0.1250	0.5080	0.1250	0.5080	ND	0.0500	0.0500	ND	0.3570	0.3570	
9/24/2018	115	4.5	*	*		*	*	*	*	*	*	*	*	*	*	*	
9/30/2018	65	2.2	*	*		*	*	*	*	*	*	*	*	*	*	*	
10/6/2018	126	7.1	*	*		*	*	*	*	*	*	*	*	*	*	*	
10/12/2018	88	5.1	ND	0.0500		ND	0.1250	0.2730	0.1250	0.2730	ND	2.7200	2.7200	ND	7.3000	7.3000	
10/18/2018	343	4.9	0.5680	0.5680		ND	0.1250	0.8150	0.1250	0.8150	ND	2.0600	2.0600	ND	0.1260	0.1260	
10/26/2018	249	1.5	0.5910	0.5910		ND	0.1250	0.2160	0.1250	0.2160	ND	0.0500	0.0500	ND	0.0500	0.0500	
11/1/2018	324	6.2	ND	0.0500		ND	0.1250	0.0000	0.1250	0.0000	ND	0.2380	0.2380	ND	0.6500	0.6500	
11/7/2018	157	4.8	ND	0.0500		ND	0.1250	ND	0.1250	0.0500	ND	0.0500	0.0500	ND	0.0500	0.0500	
11/13/2018	321	7.6	ND	0.0500		ND	0.1250	0.1430	0.1250	0.1430	ND	0.0500	0.0500	ND	0.0500	0.0500	
11/17/2018	88	4.5	*	*		*	*	*	*	*	*	*	*	*	*	*	
11/25/2018	316	3.0	ND	0.0500		ND	0.1250	0.4350	0.1250	0.4350	ND	0.4050	0.4050	ND	0.7780	0.7780	
12/1/2018	240	2.7	ND	0.0500		ND	0.1250	0.1660	0.1250	0.1660	ND	0.0500	0.0500	ND	0.0500	0.0500	
12/7/2018	102	1.9	ND	0.0500		ND	0.1250	0.2060	0.1250	0.2060	ND	0.0500	0.0500	ND	0.0500	0.0500	



# FORMOSA VOC CANISTER ANALYSIS

## 2nd QUARTER 2019

### POINT COMFORT - PARK SITE

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
4/6/2019	103	8.2	*	*	*	*	*	*	*	*	*	*
4/12/2019	83	6.9	*	*	*	*	*	*	*	*	*	*
4/18/2019	242	9.0	5.6700	5.6700	ND	0.0372	0.2630	0.2630	0.1410	0.1410	0.2070	0.2070
4/24/2019	119	8.0	1.5500	1.5500	ND	0.0319	0.1110	0.1110	0.9760	0.9760	ND	0.0319
4/30/2019	115	11.2	*	*	*	*	*	*	*	*	*	*
5/6/2019	101	5.1	1.3500	1.3500	ND	0.0326	0.2230	0.2230	0.1280	0.1280	0.1680	0.1680
5/12/2019	255	5.0	1.0600	1.0600	ND	0.0335	0.1450	0.1450	0.5410	0.5410	0.1690	0.1690
5/18/2019	124	10.3	0.2990	0.2990	ND	0.0341	0.0771	0.0771	ND	0.0341	ND	0.0341
5/24/2019	113	10.2	0.2660	0.2660	ND	0.0312	0.0662	0.0662	ND	0.0312	ND	0.0312
5/30/2019	111	6.3	0.4990	0.4990	ND	0.0403	0.1970	0.1970	0.0838	0.0838	0.1340	0.1340
6/5/2019	226	4.5	1.0200	1.0200	ND	0.0327	0.5860	0.5860	0.1440	0.1440	1.3800	1.3800
6/11/2019	225	4.4	1.2900	1.2900	ND	0.0363	0.1850	0.1850	0.5230	0.5230	0.2710	0.2710
6/17/2019	157	5.1	3.2900	3.2900	ND	0.0361	0.1270	0.1270	0.1550	0.1550	3.5900	3.5900
6/23/2019	136	9.4	0.4860	0.4860	ND	0.0367	0.173	0.1730	ND	0.0367	0.123	0.1230
6/29/2019	165	4.1	0.9810	0.9810	ND	0.0367	0.1570	0.1570	ND	0.0367	0.6650	0.6650

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	19.2230	20.8230	0.5120	5.2310	9.7903	9.9903	13.4848	14.7734	20.3920	21.4892
Rolling Year Average	0.4090	0.4430	0.0109	0.1113	0.2083	0.2126	0.2869	0.3143	0.4339	0.4572
Annual Average	0.8211	0.8415	0.0233	0.0900	0.2037	0.2060	0.2253	0.2475	0.3865	0.4046

Number of theoretical sample periods

Number of non operational sample periods

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\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

TCEQ Air Monitoring Comparison Values (ppb)			Investigation
Chemical	ST	LT	Limit (ppb)
Vinyl Chloride	27,000	0.47	25
Ethylene Dichloride	94	0.72	29.7
Benzene	180	1.4	28.2
Ethylene	500,000	30	500
1,3 Butadiene	1,700	9	25

**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**POINT COMFORT - PARK SITE**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
07/28/18	133	4.0	ND	0.0500	ND	0.1250	0.2490	0.2490	0.2380	0.2380	0.6500	0.6500
07/28/18 <sub>d</sub>	133	4.0	ND	0.0500	ND	0.1250	0.2500	0.2500	0.2350	0.2350	0.6380	0.6380
Relative Percent Difference (RPD)			ND		ND		-0.4008		1.2685		1.8634	
08/29/18	121	4.3	ND	0.0500	ND	0.1250	0.1940	0.1940	ND	0.0500	0.1040	0.1040
08/29/18 <sub>d</sub>	121	4.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1080	0.1080
Relative Percent Difference (RPD)			ND		ND		118.0328		ND		-3.7736	
09/18/18	187	1.3	ND	0.0500	ND	0.1250	0.5080	0.5080	ND	0.0500	0.3570	0.3570
09/18/18 <sub>d</sub>	187	1.3	ND	0.0500	ND	0.1250	0.5940	0.5940	ND	0.0500	0.2820	0.2820
Relative Percent Difference (RPD)			ND		ND		-15.6080		ND		23.4742	
10/14/18	123	7.0	ND	0.0500	ND	0.1250	0.2730	0.2730	2.7200	2.7200	7.3000	7.3000
10/14/18 <sub>d</sub>	123	7.0	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	
12/07/18	102	1.9	ND	0.0500	ND	0.1250	0.2060	0.2060	ND	0.0500	ND	0.0500
12/07/18 <sub>d</sub>	102	1.9	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	
02/11/19	140	2.2	ND	0.0500	ND	0.1250	0.2020	0.2020	ND	0.0500	ND	0.0500
02/11/19 <sub>d</sub>	140	2.2	ND	0.0500	ND	0.1250	0.2200	0.2200	0.1040	0.1040	0.1290	0.1290
Relative Percent Difference (RPD)			ND		ND		-8.5308		-70.1299		-88.2682	
05/12/19	255	5.0	1.0600	1.0600	ND	0.0335	0.1450	0.1450	0.5410	0.5410	0.1690	0.1690
05/12/19 <sub>d</sub>	255	5.0	1.0900	1.0900	ND	0.0348	0.1420	0.1420	0.5150	0.5150	0.1690	0.1690
Relative Percent Difference (RPD)			-2.7907		ND		2.0906		4.9242		0.0000	

d - Duplicate sample taken in addition to the routine sample (See Calculation Methodology for information on inclusion of duplicate sample results.)

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available



**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**PC PLANT SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
7/2/2018	140	5.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
7/4/2018	130	2.8	ND	0.0500	ND	1.2500	ND	0.5000	ND	0.5000	10.3000	10.3000
7/6/2018	208	0.7	ND	0.0500	ND	0.1250	0.3180	0.3180	0.1040	0.1040	0.3430	0.3430
7/8/2018	161	2.8	ND	0.0500	ND	0.1250	0.1930	0.1930	ND	0.0500	ND	0.0500
7/10/2018	121	4.6	ND	0.0500	ND	0.1250	0.3650	0.3650	ND	0.0500	ND	0.0500
7/12/2018	146	4.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
7/14/2018	138	6.1	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
7/16/2018	153	5.9	ND	0.0500	ND	0.1250	0.1080	0.1080	ND	0.0500	ND	0.0500
7/18/2018	164	5.6	ND	0.0500	ND	0.1250	0.1850	0.1850	ND	0.0500	ND	0.0500
7/20/2018	163	5.9	ND	0.0500	ND	0.1250	0.4950	0.4950	ND	0.0500	0.1720	0.1720
7/22/2018	176	5.7	ND	0.0500	ND	0.1250	0.4890	0.4890	ND	0.0500	0.1090	0.1090
7/24/2018	145	3.7	ND	0.0500	ND	0.1250	0.1390	0.1390	ND	0.0500	ND	0.0500
7/26/2018	143	3.1	ND	0.0500	ND	0.1250	0.2550	0.2550	ND	0.0500	0.1000	0.1000
7/28/2018	133	4.0	ND	0.0500	ND	0.1250	0.1870	0.1870	ND	0.0500	0.1050	0.1050
7/30/2018	156	3.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/1/2018	129	1.1	ND	0.0500	ND	0.1250	0.3900	0.3900	1.2300	1.2300	0.3380	0.3380
8/3/2018	107	4.1	ND	0.0500	ND	0.1250	0.3420	0.3420	0.7380	0.7380	1.2800	1.2800
8/5/2018	101	6.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/7/2018	122	6.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/9/2018	138	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/11/2018	149	4.1	*	*	*	*	*	*	*	*	*	*
8/13/2018	134	7.7	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/15/2018	142	6.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/17/2018	135	6.0	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/19/2018	158	7.4	*	*	*	*	*	*	*	*	*	*
8/21/2018	155	5.4	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/23/2018	136	3.9	*	*	*	*	*	*	*	*	*	*
8/25/2018	125	5.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/27/2018	124	6.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/29/2018	121	4.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1120	0.1120
8/31/2018	106	4.0	*	*	*	*	*	*	*	*	*	*
9/2/2018	106	2.1	ND	0.0500	ND	0.1250	ND	0.0500	0.1700	0.1700	0.3080	0.3080
9/4/2018	69	4.6	ND	0.0500	ND	0.1250	0.1090	0.1090	1.6600	1.6600	1.9400	1.9400
9/6/2018	91	1.8	ND	0.0500	ND	0.1250	0.1680	0.1680	0.6980	0.6980	0.6670	0.6670
9/8/2018	120	4.8	ND	0.0500	ND	0.1250	0.1760	0.1760	0.1070	0.1070	0.1150	0.1150
9/10/2018	40	3.7	ND	0.0500	ND	0.1250	0.1080	0.1080	1.5300	1.5300	3.5800	3.5800
9/12/2018	60	4.6	ND	0.0500	ND	0.1250	0.1600	0.1600	2.0500	2.0500	3.3800	3.3800
9/14/2018	41	6.1	ND	0.0500	ND	0.1250	0.1550	0.1550	2.1800	2.1800	5.1700	5.1700
9/16/2018	122	1.9	ND	0.0500	ND	0.1250	0.2860	0.2860	0.5470	0.5470	0.8670	0.8670
9/18/2018	187	1.3	ND	0.0500	ND	0.1250	0.1320	0.1320	ND	0.0500	0.1420	0.1420
9/20/2018	121	5.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
9/22/2018	204	2.9	ND	0.0500	ND	0.1250	0.1510	0.1510	ND	0.0500	ND	0.0500
9/24/2018	115	4.5	ND	0.0500	ND	0.1250	0.1780	0.1780	ND	0.0500	ND	0.0500
9/26/2018	132	2.4	ND	0.0500	ND	0.1250	0.1510	0.1510	0.4270	0.4270	0.8060	0.8060
9/28/2018	62	2.9	ND	0.0500	ND	0.1250	ND	0.0500	1.6100	1.6100	1.9400	1.9400
9/30/2018	65	2.2	ND	0.0500	ND	0.1250	0.2190	0.2190	2.1300	2.1300	2.8200	2.8200
10/2/2018	92	4.7	ND	0.0500	ND	0.1250	ND	0.0500	1.2900	1.2900	2.1200	2.1200
10/4/2018	111	4.8	ND	0.0500	ND	1.2500	1.0900	1.0900	ND	0.5000	ND	0.0500
10/6/2018	112	6.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
10/8/2018	108	7.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
10/10/2018	344	3.8	ND	0.0500	ND	0.1250	0.7510	0.7510	0.9960	0.9960	0.9980	0.9980

**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**PC PLANT SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
10/12/2018	88	5.1	ND	0.0500	ND	0.1250	0.4150	0.4150	5.0600	5.0600	17.7000	17.7000
10/14/2018	123	7.0	ND	0.0500	ND	0.1250	0.2210	0.2210	ND	0.0500	ND	0.0500
10/16/2018	317	6.3	ND	0.0500	ND	0.1250	0.2080	0.2080	ND	0.0500	ND	0.0500
10/18/2018	343	4.9	ND	0.5000	ND	0.1250	0.6560	0.6560	1.0100	1.0100	ND	0.0500
10/20/2018	345	6.8	ND	0.0500	ND	0.1250	0.3600	0.3600	1.2300	1.2300	ND	0.0500
10/22/2018	351	4.8	ND	0.0500	ND	0.1250	0.3050	0.3050	4.7800	4.7800	0.1290	0.1290
10/24/2018	5	3.9	*	*	*	*	*	*	*	*	*	*
10/26/2018	249	1.5	ND	0.0500	ND	0.1250	0.2520	0.2520	0.6970	0.6970	ND	0.0500
10/28/2018	179	2.8	ND	0.0500	ND	0.1250	0.2960	0.2960	ND	0.0500	ND	0.0500
10/30/2018	137	6.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
11/1/2018	324	6.2	ND	0.0500	ND	0.1250	0.2610	0.2610	1.0300	1.0300	ND	0.0500
11/3/2018	136	6.7	0.3310	0.3310	ND	0.1250	0.1010	0.1010	ND	0.0500	ND	0.0500
11/5/2018	158	4.9	0.3430	0.3430	ND	0.1250	0.1660	0.1660	0.4450	0.4450	0.7320	0.7320
11/7/2018	157	4.8	0.3760	0.3760	ND	0.1250	0.1450	0.1450	ND	0.0500	ND	0.0500
11/9/2018	348	10.2	ND	0.0500	0.2930	0.2930	0.7920	0.7920	1.3200	1.3200	0.3510	0.3510
11/11/2018	24	6.2	ND	0.0500	ND	0.1250	0.4330	0.4330	0.8340	0.8340	0.3180	0.3180
11/13/2018	321	7.6	ND	0.0500	ND	0.1250	0.2450	0.2450	0.1040	0.1040	ND	0.0500
11/15/2018	112	2.9	ND	0.0500	ND	0.1250	0.3090	0.3090	0.7050	0.7050	0.8120	0.8120
11/17/2018	88	4.5	*	*	*	*	*	*	*	*	*	*
11/19/2018	344	7.0	*	*	*	*	*	*	*	*	*	*
11/21/2018	22	4.8	ND	0.0500	ND	0.1250	0.4500	0.4500	1.3400	1.3400	1.0700	1.0700
11/23/2018	46	0.4	*	*	*	*	*	*	*	*	*	*
11/25/2018	316	3.0	ND	0.0500	ND	0.1250	0.2050	0.2050	ND	0.0500	ND	0.0500
11/27/2018	85	1.9	ND	0.0500	ND	0.1250	0.2100	0.2100	ND	0.0500	ND	0.0500
11/29/2018	145	3.2	ND	0.0500	0.2780	0.2780	0.1770	0.1770	ND	0.0500	0.3070	0.3070
12/1/2018	240	2.7	ND	0.0500	ND	0.1250	0.1930	0.1930	ND	0.0500	0.1400	0.1400
12/3/2018	348	5.8	ND	0.0500	0.2780	0.2780	0.8490	0.8490	0.6290	0.6290	0.6660	0.6660
12/5/2018	46	5.0	ND	0.0500	ND	0.1250	0.3790	0.3790	1.8800	1.8800	5.1400	5.1400
12/7/2018	102	1.9	ND	0.0500	ND	0.1250	0.3240	0.3240	0.1260	0.1260	0.2680	0.2680
12/9/2018	323	6.4	*	*	*	*	*	*	*	*	*	*
12/11/2018	101	3.0	ND	0.0500	ND	0.1250	0.2460	0.2460	0.1050	0.1050	0.3330	0.3330
12/13/2018	235	6.7	ND	0.0500	ND	0.1250	0.1550	0.1550	ND	0.0500	ND	0.0500
12/15/2018	284	5.4	*	*	*	*	*	*	*	*	*	*
12/17/2018	129	1.7	ND	0.0500	ND	0.1250	0.5460	0.5460	ND	0.0500	0.2160	0.2160
12/19/2018	15	1.7	ND	0.0500	ND	0.1250	0.2210	0.2210	0.5950	0.5950	3.3900	3.3900
12/21/2018	240	3.0	ND	0.0500	ND	0.1250	0.2790	0.2790	ND	0.0500	0.2230	0.2230
12/23/2018	323	3.2	ND	0.0500	0.2910	0.2910	0.7380	0.7380	0.4220	0.4220	ND	0.0500
12/25/2018	106	5.9	ND	0.0500	ND	0.1250	0.2070	0.2070	0.1530	0.1530	0.8980	0.8980
12/27/2018	128	1.7	ND	0.0500	ND	0.1250	0.2390	0.2390	0.3100	0.3100	1.5000	1.5000
12/29/2018	346	8.6	ND	0.0500	ND	0.1250	0.2920	0.2920	0.3400	0.3400	ND	0.0500
12/31/2018	254	3.2	0.7080	0.7080	ND	0.1250	0.3200	0.3200	ND	0.0500	ND	0.0500
1/2/2019	350	6.8	ND	0.5000	ND	0.1250	0.4050	0.4050	0.5250	0.5250	0.2550	0.2550
1/4/2019	229	2.0	ND	0.0500	ND	0.1250	0.1340	0.1340	ND	0.0500	ND	0.0500
1/6/2019	118	5.8	ND	0.0500	ND	0.1250	0.1340	0.1340	ND	0.0500	ND	0.0500
1/8/2019	153	1.4	ND	0.0500	ND	0.1250	0.1680	0.1680	ND	0.0500	0.1360	0.1360
1/10/2019	68	4.4	ND	0.0500	ND	0.1250	0.4450	0.4450	1.1300	1.1300	2.9000	2.9000
1/12/2019	307	4.4	ND	0.0500	ND	0.1250	0.3010	0.3010	0.2240	0.2240	0.1370	0.1370
1/14/2019	342	4.9	ND	0.0500	ND	0.1250	0.3140	0.3140	0.5830	0.5830	ND	0.0500
1/16/2019	85	5.8	ND	0.5000	ND	0.1250	0.1990	0.1990	0.2050	0.2050	1.2000	1.2000
1/18/2019	144	5.2	ND	0.0500	ND	0.1250	0.2540	0.2540	ND	0.0500	ND	0.0500
1/20/2019	325	2.6	ND	0.0500	ND	0.1250	0.1960	0.1960	ND	0.0500	0.1400	0.1400

**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**PC PLANT SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
1/22/2019	137	8.5	*	*	*	*	*	*	*	*	*	*
1/24/2019	90	5.1	*	*	*	*	*	*	*	*	*	*
1/26/2019	63	5.3	ND	0.0500	ND	0.1250	0.2390	0.2390	1.1400	1.1400	4.4100	4.4100
1/28/2019	169	4.7	ND	0.0500	ND	0.1250	0.2250	0.2250	ND	0.0500	0.2600	0.2600
1/30/2019	42	7.8	2.7300	2.7300	ND	0.1250	ND	0.0500	0.5350	0.5350	2.7300	2.7300
2/1/2019	58	5.5	*	*	*	*	*	*	*	*	*	*
2/3/2019	121	3.9	ND	0.0500	1.1800	1.1800	0.2700	0.2700	ND	0.0500	ND	0.0500
2/5/2019	125	5.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
2/7/2019	13	3.9	ND	0.0500	ND	0.1250	0.4920	0.4920	0.1640	0.1640	ND	0.0500
2/9/2019	353	6.8	0.2530	0.2530	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
2/11/2019	140	2.2	ND	0.0500	3.5000	3.5000	0.2920	0.2450	ND	0.0500	0.1540	0.1540
2/13/2019	90	4.6	*	*	*	*	*	*	*	*	*	*
2/15/2019	180	6.3	*	*	*	*	*	*	*	*	*	*
2/17/2019	336	5.3	*	*	*	*	*	*	*	*	*	*
2/19/2019	354	6.0	*	*	*	*	*	*	*	*	*	*
2/21/2019	355	4.7	ND	0.0500	ND	0.1250	0.4010	0.4010	0.3090	0.3090	0.1800	0.1800
2/23/2019	197	1.2	ND	0.0500	ND	0.1250	0.3310	0.3310	0.8750	0.8750	0.2080	0.2080
2/25/2019	49	7.8	3.1100	3.1100	ND	0.1250	ND	0.0500	0.6300	0.6300	3.4600	3.4600
2/27/2019	130	3.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
3/1/2019	357	3.2	ND	0.0500	ND	0.1250	0.4400	0.4400	0.9490	0.9490	0.8860	0.8860
3/3/2019	342	8.2	*	*	*	*	*	*	*	*	*	*
3/5/2019	340	7.2	ND	0.0500	ND	0.1250	0.3260	0.3260	0.3800	0.3800	ND	0.0500
3/7/2019	113	4.2	ND	0.0500	ND	0.1250	0.1820	0.1820	ND	0.0500	ND	0.0500
3/9/2019	131	6.4	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
3/11/2019	83	6.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
3/13/2019	140	9.4	2.4200	2.4200	ND	0.0500	0.1120	0.1120	0.1020	0.1020	0.1870	0.1870
3/15/2019	340	8.0	ND	0.0500	ND	0.1250	0.2820	0.2820	0.3870	0.3870	ND	0.0500
3/17/2019	65	1.5	ND	0.0500	ND	0.0500	0.2220	0.2220	0.1030	0.1030	0.2130	0.2130
3/19/2019	57	6.7	6.8400	6.8400	ND	0.0500	0.2600	0.2600	0.7420	0.7420	2.0000	2.0000
3/21/2019	100	2.8	16.7000	16.7000	ND	0.0500	0.4200	0.4200	0.6240	0.6240	1.3500	1.3500
3/23/2019	109	8.1	*	*	*	*	*	*	*	*	*	*
3/25/2019	142	3.2	*	*	*	*	*	*	*	*	*	*
3/27/2019	90	5.4	*	*	*	*	*	*	*	*	*	*
3/29/2019	119	8.3	*	*	*	*	*	*	*	*	*	*
3/31/2019	337	6.4	*	*	*	*	*	*	*	*	*	*
4/2/2019	254	3.2	*	*	*	*	*	*	*	*	*	*
4/4/2019	152	5.0	*	*	*	*	*	*	*	*	*	*
4/6/2019	103	8.2	*	*	*	*	*	*	*	*	*	*
4/8/2019	263	5.0	*	*	*	*	*	*	*	*	*	*
4/10/2019	144	9.1	*	*	*	*	*	*	*	*	*	*
4/12/2019	83	6.9	*	*	*	*	*	*	*	*	*	*
4/14/2019	271	6.6	*	*	*	*	*	*	*	*	*	*
4/16/2019	117	9.1	*	*	*	*	*	*	*	*	*	*
4/18/2019	242	9.0	5.7200	5.7200	0.1100	0.1100	1.5500	1.5500	0.2530	0.2530	1.4200	1.4200
4/20/2019	111	5.1	5.8600	5.8600	ND	0.0337	0.1820	0.1820	0.3500	0.3500	0.4280	0.4280
4/22/2019	105	8.8	2.1600	2.1600	ND	0.0375	0.0808	0.0808	ND	0.0375	ND	0.0375
4/24/2019	119	8.0	4.2400	4.2400	ND	0.0360	0.2380	0.2380	ND	0.0360	ND	0.0360
4/26/2019	219	4.2	9.0600	9.0600	ND	0.0308	0.2560	0.2560	0.7020	0.7020	0.1800	0.1800
4/28/2019	118	8.6	1.8700	1.8700	ND	0.0321	ND	0.0321	ND	0.0321	ND	0.0321
4/30/2019	115	11.2	0.3140	0.3140	ND	0.0322	0.0946	0.0946	ND	0.0322	ND	0.0322
5/2/2019	94	7.7	1.6600	1.6600	ND	0.0324	0.1050	0.1050	0.2250	0.2250	1.0400	1.0400



# FORMOSA VOC CANISTER ANALYSIS

## 2nd QUARTER 2019

### PC PLANT SITE

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
5/4/2019	266	4.4	4.6300	4.6300	ND	0.0316	0.2080	0.2080	0.5490	0.5490	0.3260	0.3260
5/6/2019	101	5.1	2.1700	2.1700	ND	0.0323	0.1360	0.1360	0.3760	0.3760	0.8690	0.8690
5/8/2019	123	8.6	0.6060	0.6060	ND	0.0321	0.1740	ND	ND	ND	0.0321	ND
5/10/2019	244	6.9	7.2300	7.2300	0.1050	0.1050	0.3290	0.3290	0.2860	0.2860	0.2500	0.2500
5/12/2019	255	5.0	3.3100	3.3100	ND	0.0326	0.1860	0.1860	0.4110	0.4110	0.7620	0.7620
5/14/2019	95	5.0	3.7800	3.7800	ND	0.0317	0.2170	0.2170	1.1100	1.1100	1.8500	1.8500
5/16/2019	103	6.1	0.5220	0.5220	ND	0.0336	0.1150	0.1150	ND	0.0336	ND	0.0336
5/18/2019	124	10.3	0.2840	0.2840	ND	0.0331	ND	0.0331	ND	0.0331	0.0807	0.0807
5/20/2019	119	11.8	0.2910	0.2910	ND	0.0335	ND	0.0335	ND	0.0335	ND	0.0335
5/22/2019	123	11.9	0.9730	0.9730	ND	0.0331	0.1150	0.1150	ND	0.0331	ND	0.0331
5/24/2019	113	10.2	0.1890	0.1890	ND	0.0326	0.0952	0.0952	ND	0.0326	ND	0.0326
5/26/2019	114	8.6	0.1730	0.1730	ND	0.0327	ND	0.0327	ND	0.0327	ND	0.0327
5/28/2019	130	10.1	0.3280	0.3280	ND	0.0332	ND	0.0332	ND	0.0332	ND	0.0332
5/30/2019	111	6.3	0.6420	0.6420	ND	0.0335	0.1380	0.1380	ND	0.0335	0.4200	0.4200
6/1/2019	122	5.2	*	*	*	*	*	*	*	*	*	*
6/3/2019	121	5.9	0.5140	0.5140	ND	0.0333	0.1340	0.1340	ND	0.0333	0.0939	0.0939
6/5/2019	226	4.5	1.8000	1.8000	ND	0.0330	0.1730	0.1730	0.1740	0.1740	0.0684	0.0684
6/7/2019	220	3.7	0.7340	0.7340	ND	0.0330	0.1430	0.1430	ND	0.0330	ND	0.0330
6/9/2019	145	4.7	0.2230	0.2230	ND	0.0329	0.0931	0.0931	ND	0.0329	ND	0.0329
6/11/2019	225	4.4	7.7000	7.7000	0.1250	0.1250	0.6450	0.6450	0.6980	0.6980	2.1500	2.1500
6/13/2019	233	2.6	2.0300	2.0300	0.1050	0.1050	0.1920	0.1920	ND	0.0401	0.2510	0.2510
6/15/2019	146	8.8	0.2230	0.2230	ND	0.0327	0.0784	0.0784	ND	0.0327	ND	0.0327
6/17/2019	157	5.1	7.0200	7.0200	ND	0.0339	0.2220	0.2220	0.2740	0.2740	7.4600	7.4600
6/19/2019	155	6.6	0.3190	0.3190	ND	0.0326	0.1860	0.1860	ND	0.0326	ND	0.0326
6/21/2019	130	9.0	0.3970	0.3970	ND	0.0322	ND	0.0322	ND	0.0322	ND	0.0322
6/23/2019	136	9.4	0.3190	0.3190	ND	0.0325	0.0712	0.0712	ND	0.0325	ND	0.0325
6/25/2019	122	5.1	5.9900	5.9900	0.0857	0.0857	0.3580	0.3580	0.5750	0.5750	2.2100	2.2100
6/27/2019	110	5.9	0.6450	0.6450	ND	0.0331	0.0665	0.0665	ND	0.0331	ND	0.0331
6/29/2019	165	4.1	1.8100	1.8100	ND	0.0329	0.1230	0.1230	0.0868	0.0868	1.1800	1.1800

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	119.5470	127.4470	6.3507	22.8224	32.2438	34.2935	56.2588	60.8459	113.8870	117.1842
Rolling Year Average	0.7970	0.8496	0.0423	0.1521	0.2150	0.2286	0.3751	0.4056	0.7592	0.7812
Annual Average	1.7322	1.7645	0.0766	0.1424	0.2022	0.2095	0.2305	0.2517	0.6154	0.6344

Number of theoretical sample periods

Number of non operational sample periods

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

150.0000

TCEQ Air Monitoring Comparison Values (ppb)				Investigation Limit (ppb)
Chemical	ST	LT	LT	
Vinyl Chloride	27,000	0.47	25	
Ethylene Dichloride	94	0.72	29.7	
Benzene	180	1.4	28.2	
Ethylene	500,000	30	500	
1, 3 Butadiene	1,700	9	25	

**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**POINT COMFORT - PC SITE**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
07/04/18	130	2.8	ND	0.5000	ND	1.2500	ND	0.5000	ND	0.5000	10.3000	10.3000
07/04/18 <sub>a</sub>	130	2.8	ND	0.5000	ND	1.2500	ND	0.5000	ND	0.5000	9.4900	9.4900
Relative Percent Difference (RPD)			ND		ND		ND		ND		8.1860	
07/08/18	161	2.8	ND	0.0500	ND	0.1250	0.1930	0.1930	ND	0.0500	ND	0.0500
07/08/18 <sub>a</sub>	161	2.8	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND		ND		ND		ND		ND	
07/14/18	138	6.1	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
07/14/18 <sub>a</sub>	138	6.1	ND	0.5000	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		ND		ND		ND	
07/20/18	163	5.9	ND	0.0500	ND	0.1250	0.4950	0.4950	ND	0.0500	0.1720	0.1720
07/20/18 <sub>a</sub>	163	5.9	ND	0.0500	ND	0.1250	0.1070	0.1070	ND	0.0500	0.1370	0.1370
Relative Percent Difference (RPD)			ND		ND		128.9037		ND		22.6537	
07/26/18	143	3.1	ND	0.0500	ND	0.1250	0.2550	0.2550	ND	0.0500	0.1000	0.1000
07/26/18 <sub>a</sub>	143	3.1	ND	0.1000	ND	0.2500	22.1000	22.1000	ND	0.1000	0.7510	0.7510
Relative Percent Difference (RPD)			ND		ND		-195.4373		ND		-152.9965	
08/01/18	129	1.1	ND	0.0500	ND	0.1250	0.3900	0.3900	1.2300	1.2300	0.3580	0.3580
08/01/18 <sub>a</sub>	129	1.1	ND	0.0500	ND	0.1250	0.4900	0.4900	1.1100	1.1100	0.2890	0.2890
Relative Percent Difference (RPD)			ND		ND		-22.7273		10.2564		21.3292	
08/07/18	122	6.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
08/07/18 <sub>a</sub>	122	6.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		ND		ND		ND	
08/15/18	142	6.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
08/15/18 <sub>a</sub>	142	6.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		ND		ND		ND	
08/21/18	155	5.4	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
08/21/18 <sub>a</sub>	155	5.4	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		ND		ND		ND	
08/25/18	125	5.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
08/25/18 <sub>a</sub>	125	5.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		ND		ND		ND	
09/06/18	91	1.8	ND	0.0500	ND	0.1250	0.1680	0.1680	0.6980	0.6980	0.6670	0.6670
09/06/18 <sub>a</sub>	91	1.8	ND	0.0500	ND	0.1250	0.2100	0.2100	0.6580	0.6580	0.6510	0.6510
Relative Percent Difference (RPD)			ND		ND		-22.2222		5.8997		2.4279	
09/12/18	60	4.6	ND	0.0500	ND	0.1250	0.1600	0.1600	2.0500	2.0500	3.3800	3.3800
09/12/18 <sub>a</sub>	60	4.6	ND	0.0500	ND	0.1250	0.1050	0.1050	1.4900	1.4900	3.8400	3.8400
Relative Percent Difference (RPD)			ND		ND		41.5094		31.6384		-12.7424	



SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
09/18/18	187	1.3	ND	0.0500	ND	0.1250	0.1510	0.4270	0.8060	0.7770	0.8060	
09/18/18 <sub>d</sub>	187	1.3	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)												
09/26/18	132	2.4	ND	0.0500	ND	0.1250	0.1510	0.4270	0.8060	0.7770	0.8060	
09/26/18 <sub>d</sub>	132	2.4	ND	0.0500	ND	0.1250	0.1460	0.4280	0.7770	0.7770	0.7770	
Relative Percent Difference (RPD)			-0.2339									
10/04/18	111	4.8	ND	0.5000	ND	1.2500	1.0900	ND	ND	ND	0.5000	
10/04/18 <sub>d</sub>	111	4.8	ND	0.5000	ND	1.2500	1.1110	ND	ND	ND	0.5000	
Relative Percent Difference (RPD)			ND									
10/10/18	344	3.8	ND	0.0500	ND	0.1250	0.7510	0.9960	0.9980	0.9330	0.9980	
10/10/18 <sub>d</sub>	344	3.8	ND	0.0500	ND	0.1250	0.8850	0.9630	0.9330	0.9330	0.9330	
Relative Percent Difference (RPD)			-16.3814									
10/16/18	317	6.3	ND	0.0500	ND	0.1250	0.2080	ND	ND	ND	0.0500	
10/16/18 <sub>d</sub>	317	6.3	ND	0.5000	ND	0.1250	0.2710	0.2710	ND	ND	0.0500	
Relative Percent Difference (RPD)			-26.3048									
10/22/18	351	4.8	ND	0.0500	ND	0.1250	0.3050	4.7800	0.1290	*	0.1290	
10/22/18 <sub>d</sub>	351	4.8	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)												
10/28/18	179	2.8	ND	0.0500	ND	0.1250	0.2960	ND	ND	ND	0.0500	
10/28/18 <sub>d</sub>	179	2.8	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)												
11/03/18	136	6.7	0.3310	0.3310	ND	0.1250	0.1010	ND	ND	ND	0.0500	
11/03/18 <sub>d</sub>	136	6.7	0.3360	0.3360	0.4800	0.4800	0.0500	ND	ND	ND	0.0500	
Relative Percent Difference (RPD)			-1.4993									
11/11/18	24	6.2	ND	0.0500	ND	0.1250	0.4330	0.8340	0.3180	*	0.3180	
11/11/18 <sub>d</sub>	24	6.2	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)												
11/17/18	88	4.5	*	*	*	*	*	*	*	*	*	
11/17/18 <sub>d</sub>	88	4.5	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)												
11/23/18	46	0.4	*	*	*	*	*	*	*	*	*	
11/23/18 <sub>d</sub>	46	0.4	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)												
11/29/18	145	3.2	ND	0.0500	0.2780	0.2780	0.1770	ND	0.3070	0.3340	0.3070	
11/29/18 <sub>d</sub>	145	3.2	ND	0.0500	0.2940	0.2940	0.2170	ND	0.3340	0.3340	0.3340	
Relative Percent Difference (RPD)			-20.3046									
12/07/18	102	1.9	ND	0.0500	ND	0.1250	0.3240	0.1260	0.2680	0.6510	0.2680	
12/07/18 <sub>d</sub>	102	1.9	ND	0.0500	ND	0.1250	0.2100	0.6580	0.6510	0.6510	0.6510	
Relative Percent Difference (RPD)			-135.7143									

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE		
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	
12/13/18	235	6.7	ND	0.0500	ND	0.1250	0.1550	0.1550	0.0500	ND	0.0500	ND	0.0500
12/13/18 <sub>d</sub>	235	6.7	ND	0.0500	ND	0.1250	0.1760	0.1760	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		-12.6888		ND		ND		ND
12/25/18	106	5.9	ND	0.0500	ND	0.1250	0.2070	0.2070	0.1530	0.1530	0.8980	0.8980	*
12/25/18 <sub>d</sub>	106	5.9	*	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*		*
12/31/18	254	3.2	0.7080	0.7080	ND	0.1250	0.3200	0.3200	0.0500	ND	0.0500	ND	0.0500
12/31/18 <sub>d</sub>	254	3.2	*	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*		*
01/08/19	153	1.4	ND	0.0500	ND	0.1250	0.1680	0.1680	0.0500	ND	0.1360	0.1360	*
01/08/19 <sub>d</sub>	153	1.4	*	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*		*
01/16/19	85	5.8	ND	0.5000	ND	0.1250	0.1990	0.1990	0.2050	0.2050	1.2000	1.2000	1.2000
01/16/19 <sub>d</sub>	85	5.8	ND	0.0500	ND	0.1250	0.1880	0.1880	0.3510	0.3510	1.3700	1.3700	1.3700
Relative Percent Difference (RPD)			ND		ND		5.6848		-52.5180		-13.2296		
01/22/19	137	8.5	*	*	*	*	*	*	*	*	*	*	*
01/22/19 <sub>d</sub>	137	8.5	*	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*		*
01/30/19	42	7.8	2.7300	2.7300	ND	0.1250	ND	ND	0.5350	0.5350	2.7300	2.7300	2.7300
01/30/19 <sub>d</sub>	42	7.8	ND	0.0500	ND	0.1250	0.2000	0.2000	1.5600	1.5600	2.0800	2.0800	2.0800
Relative Percent Difference (RPD)			192.8058		ND		-120.0000		-97.8520		27.0270		
02/07/19	13	3.9	ND	0.0500	ND	0.1250	0.4920	0.4920	0.1640	0.1640	ND	ND	0.0500
02/07/19 <sub>d</sub>	13	3.9	ND	0.0500	0.1760	0.1760	0.3170	0.3170	0.4320	0.4320	ND	ND	0.0500
Relative Percent Difference (RPD)			ND		-33.8870		43.2633		-89.9329		ND		
02/09/19	353	6.8	0.2530	0.2530	ND	0.1250	ND	ND	0.0500	ND	ND	ND	0.0500
02/09/19 <sub>d</sub>	353	6.8	0.1040	0.1040	ND	0.1250	ND	ND	0.0500	ND	ND	ND	0.0500
Relative Percent Difference (RPD)			83.4734		ND		ND		ND		ND		
02/13/19	90	4.6	*	*	*	*	*	*	*	*	*	*	*
02/13/19 <sub>d</sub>	90	4.6	*	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*		*
02/19/19	354	6.0	*	*	*	*	*	*	*	*	*	*	*
02/19/19 <sub>d</sub>	354	6.0	*	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*		*
02/25/19	49	7.8	3.1100	3.1100	ND	0.1250	ND	ND	0.6300	0.6300	3.4600	3.4600	3.4600
02/25/19 <sub>d</sub>	49	7.8	*	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*		*
03/05/19	340	7.2	ND	0.0500	ND	0.1250	0.3260	0.3260	0.3800	0.3800	ND	ND	0.0500
03/05/19 <sub>d</sub>	340	7.2	ND	0.0500	ND	0.1250	0.1710	0.1710	0.0500	ND	ND	ND	0.3540
Relative Percent Difference (RPD)			ND										







**FORMOSA VOC CANISTER ANALYSIS**  
**2nd QUARTER 2019**  
**POINT COMFORT - PC SITE**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
06/01/19	122	5.2	*	*	*	*	*	*	*	*	*	*
06/01/19 <sub>d</sub>	122	5.2	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)												
06/07/19	220	3.7	0.7340	0.7340	ND	0.0330	0.1430	0.1430	ND	0.0330	ND	0.0330
06/07/19 <sub>d</sub>	220	3.7	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)												
06/13/19	233	2.6	2.0300	2.0300	0.1050	0.1050	0.1920	0.1920	ND	0.0401	0.2510	0.2510
06/13/19 <sub>d</sub>	233	2.6	1.3600	1.3600	ND	0.0366	0.1670	0.1670	ND	0.0366	0.2150	0.2150
Relative Percent Difference (RPD)												
06/19/19	155	6.6	0.3190	0.3190	ND	0.0326	0.1860	0.1860	ND	0.0326	ND	0.0326
06/19/19 <sub>d</sub>	155	6.6	0.4360	0.4360	ND	0.0319	0.1940	0.1940	ND	0.0319	0.1040	0.1040
Relative Percent Difference (RPD)												
06/25/19	122	5.1	5.9900	5.9900	0.0857	0.0857	0.3580	0.3580	0.5750	0.5750	2.2100	2.2100
06/25/19 <sub>d</sub>	122	5.1	5.8600	5.8600	0.0887	0.0887	0.3370	0.3370	0.5520	0.5520	2.2500	2.2500
Relative Percent Difference (RPD)												
				2.1941		-3.4404		6.0432		4.0816		-1.7937

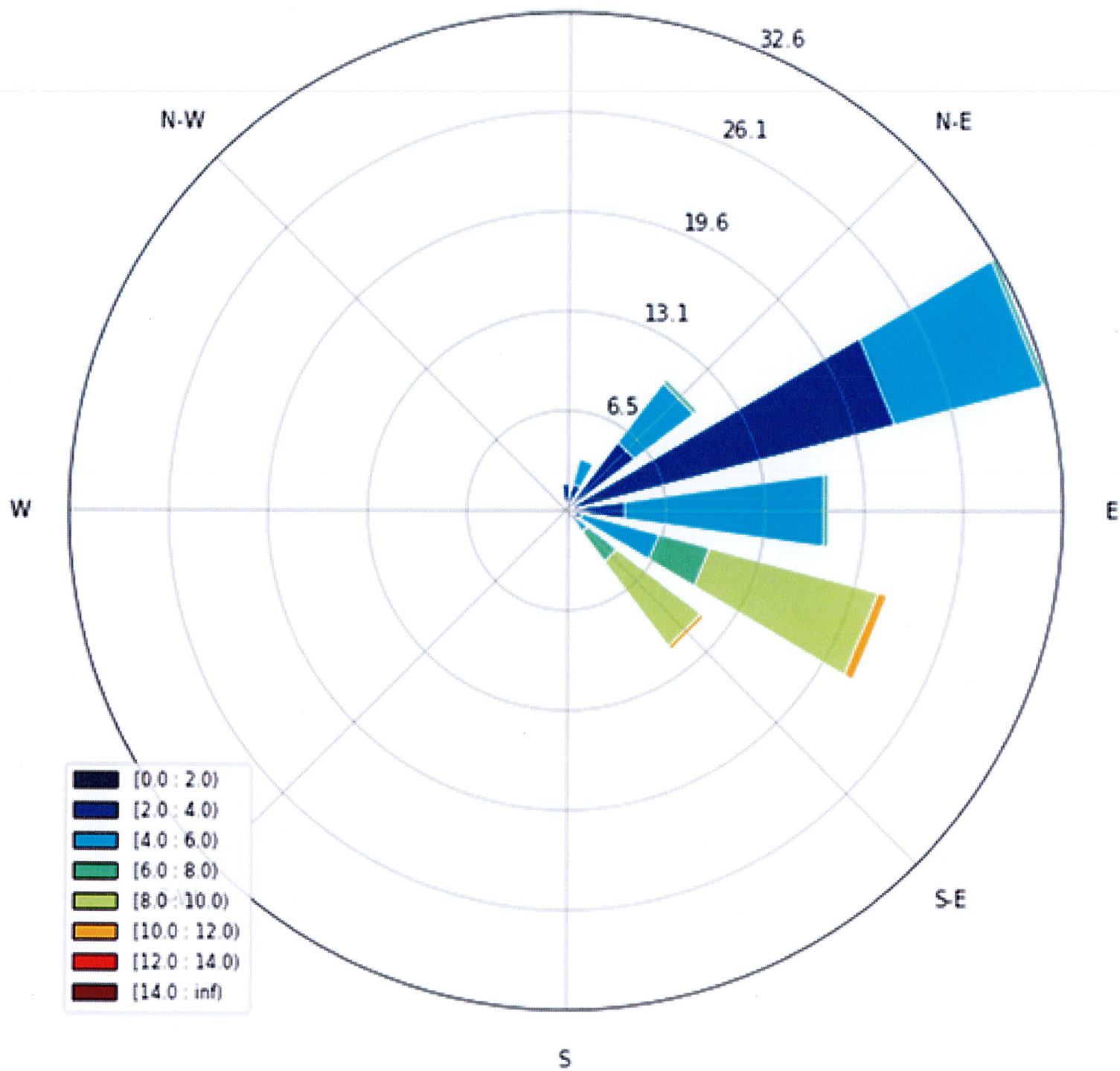
d - Duplicate sample taken in addition to the routine sample (See Calculation Methodology for information on inclusion of duplicate sample results.)

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

**Summary of Non-operational Periods  
2nd QUARTER 2019  
Point Comfort SUMMA Canister System**

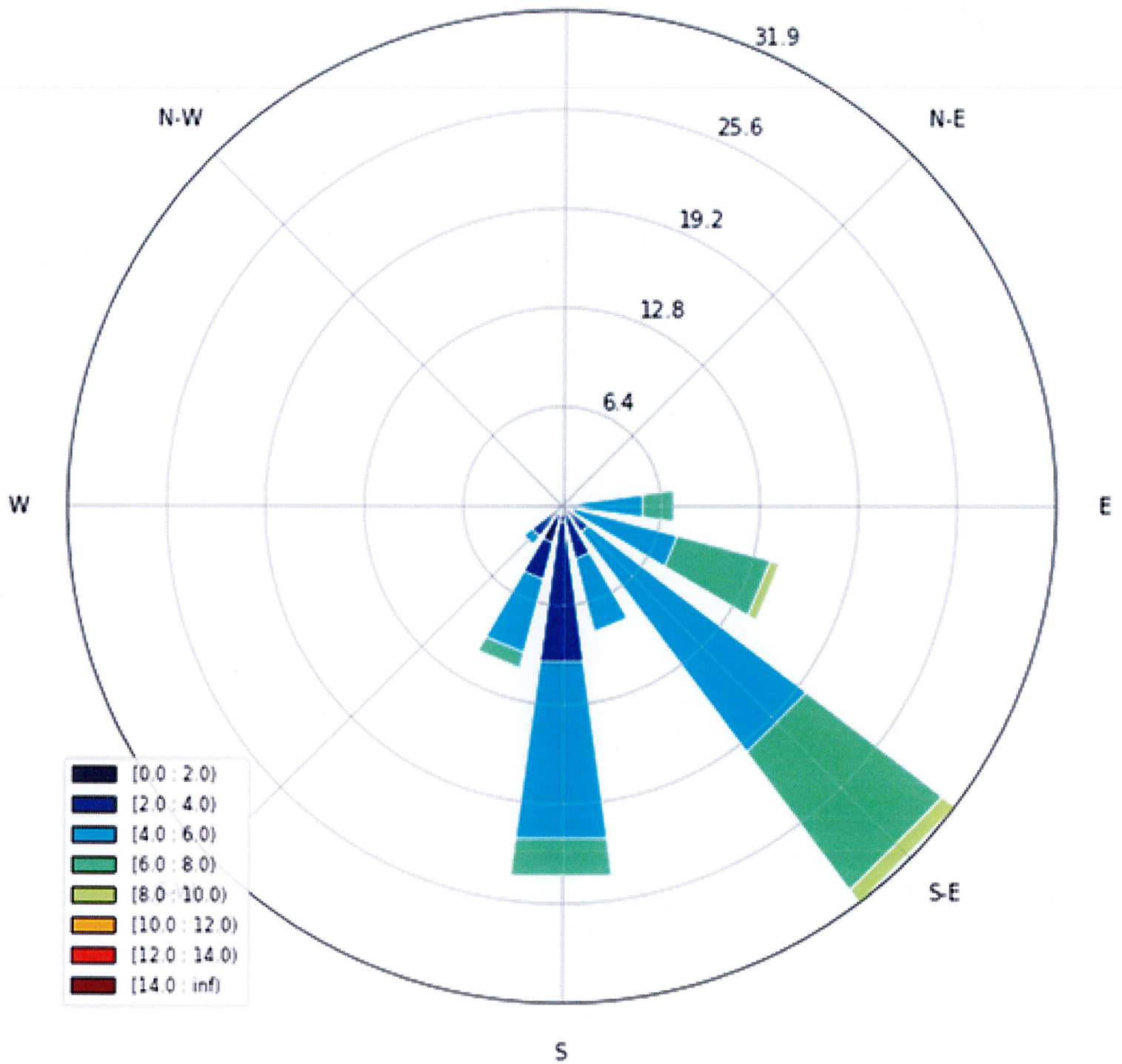
SUMMA Site	Date (s)	Description of Problem	Corrective Action
PC & PC(duplicate)	4/2/19	No SUMMA cans available.	Original lab could not keep up with the amount of SUMMA canisters needed. The lab notified us and stated they would no longer provide services to us. Sample results for the canister they had were delayed which left us without SUMMA canisters until another lab could be arranged.
PC	4/4/19		
PC	4/6/19		
City Hall, Formosa Training Complex, & Park	4/6/19		
PC & PC(duplicate)	4/8/19		
PC	4/10/19		
PC	4/12/19	Duplicate sample valve was not opened by shift safety during installation.	
City Hall, Formosa Training Complex, & Park	4/12/19		
PC & PC(duplicate)	4/14/19		
PC	4/16/19	Canisters were received from lab with low pressure. Additional Cans were unavailable.	Lab was notified of the issue.
PC (duplicate)	4/26/19		
City Hall & Park	4/30/19	Voided sample due to low pressure.	
PC (duplicate)	5/20/19	Analyst Voided Sample.	
PC (duplicate)	5/26/19	Sample leaked prior to run.	
City Hall (duplicate)	5/30/19	Samples did not run due unknown reasons.	
PC & PC(duplicate)	6/1/19	No SUMMA cans available due to false FTIR alarm.	AECOM was unable to verify the cause. Next run was successful.
PC (duplicate)	6/7/19		Spectrum adjusted alarm setup to prevent future occurrences.

N

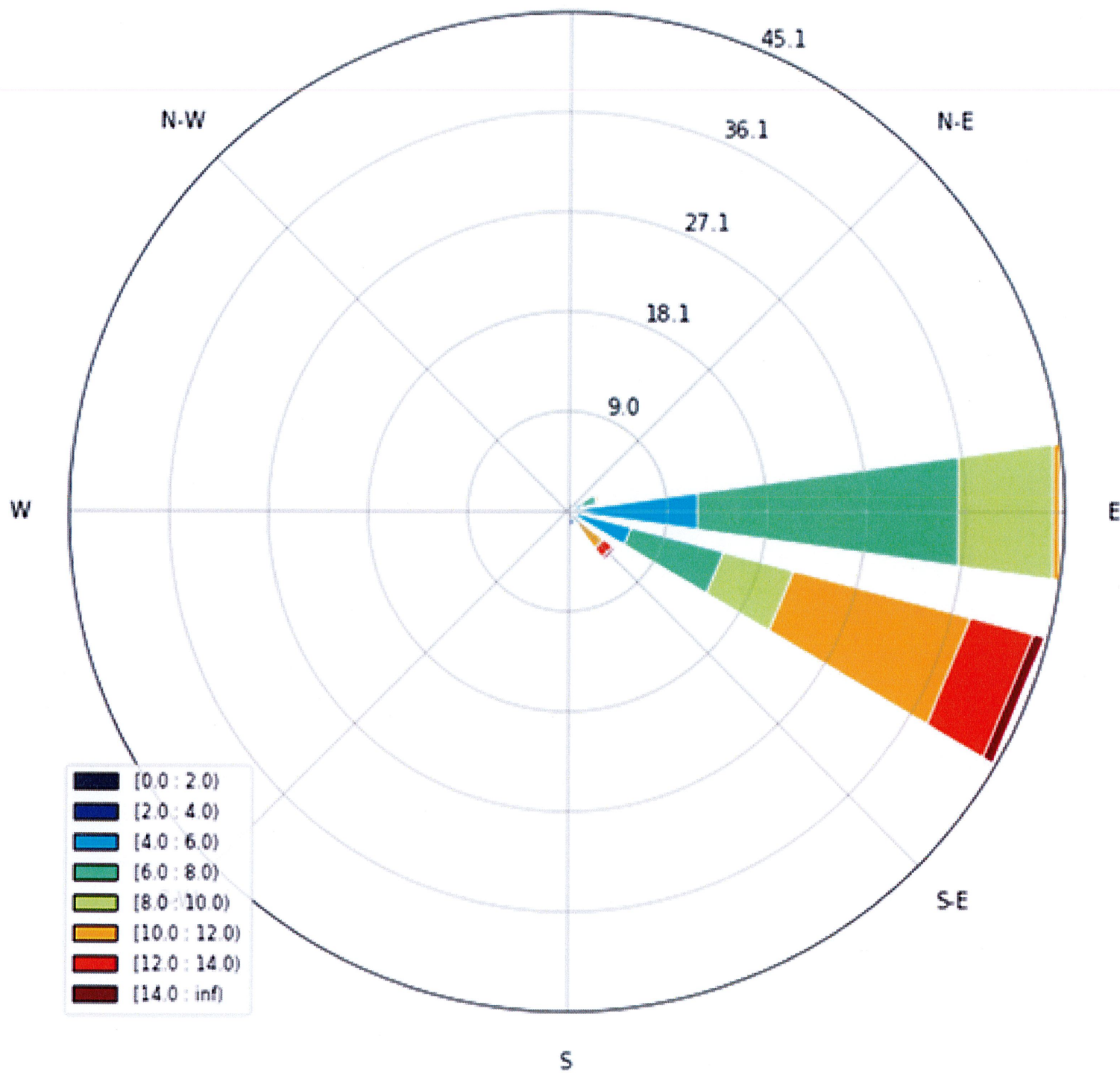




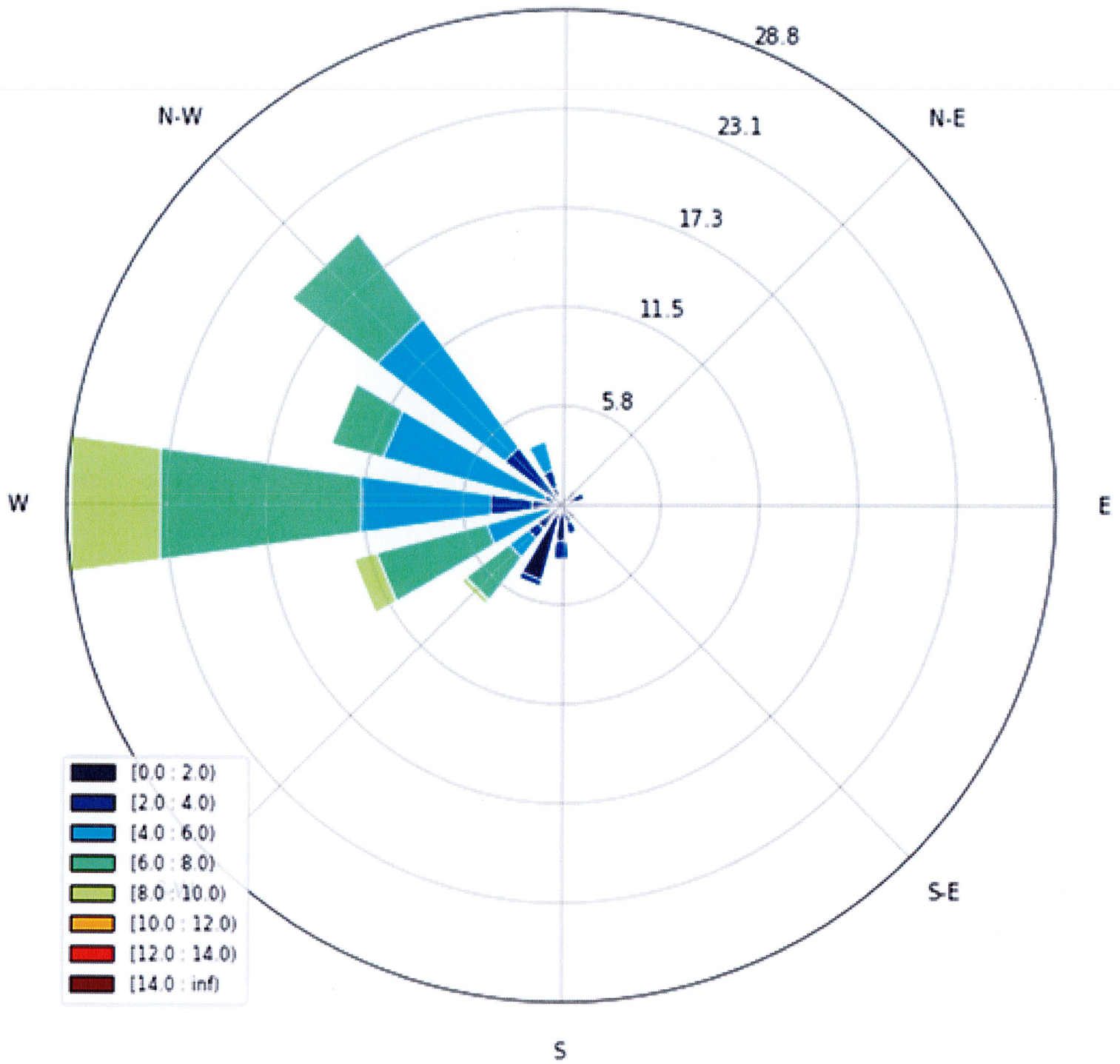
FPC: April 4 2019



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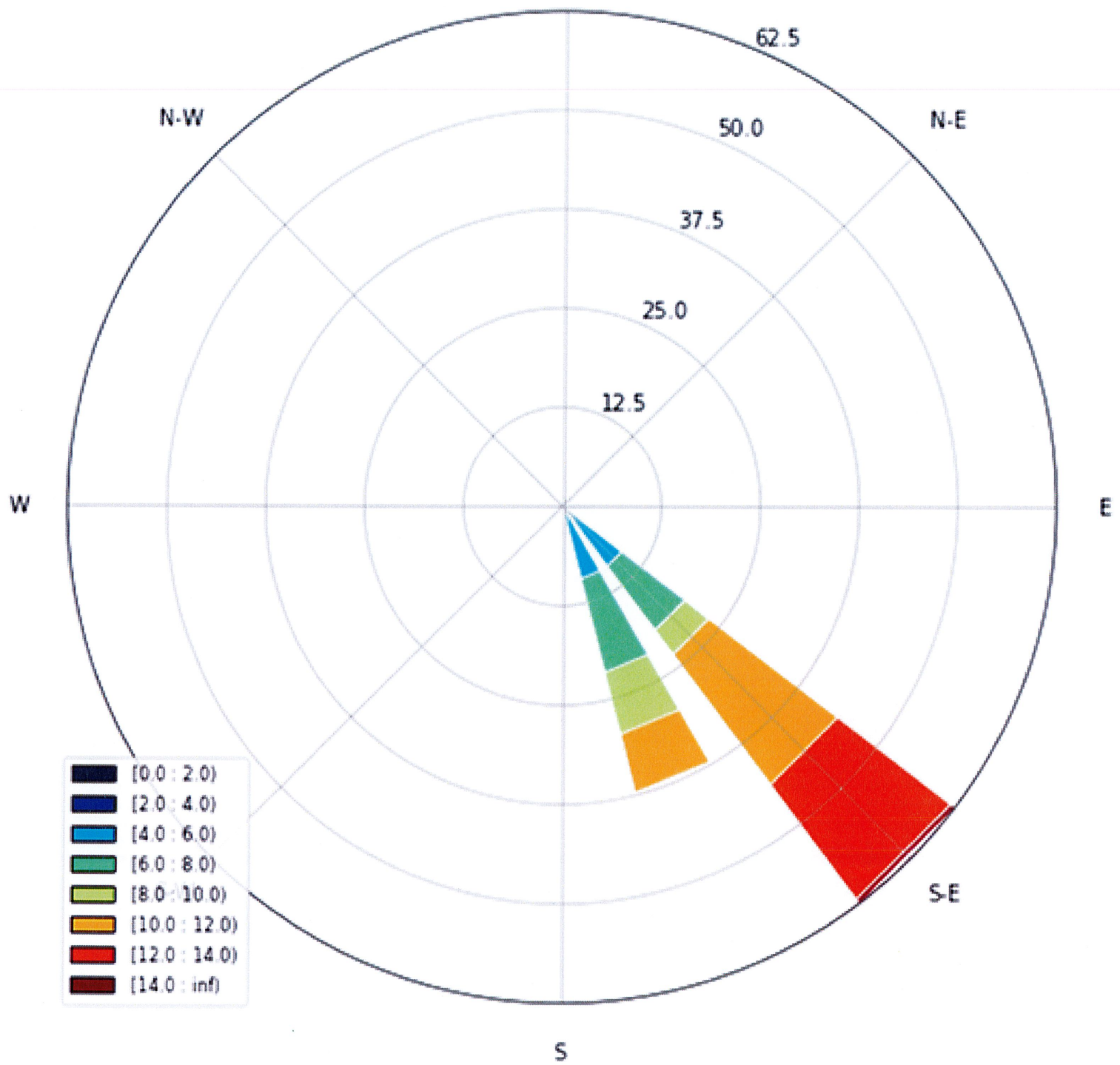


## N

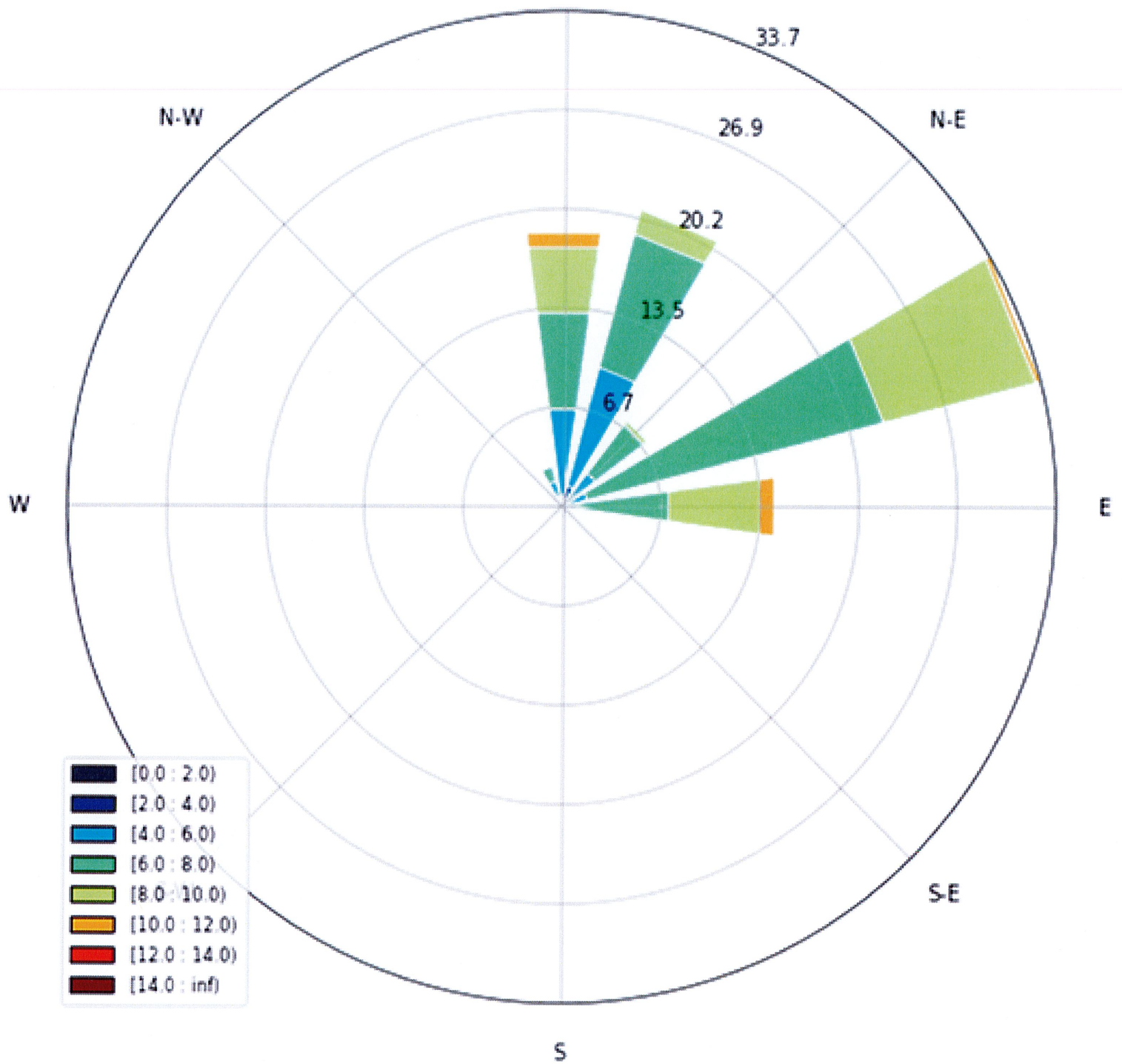




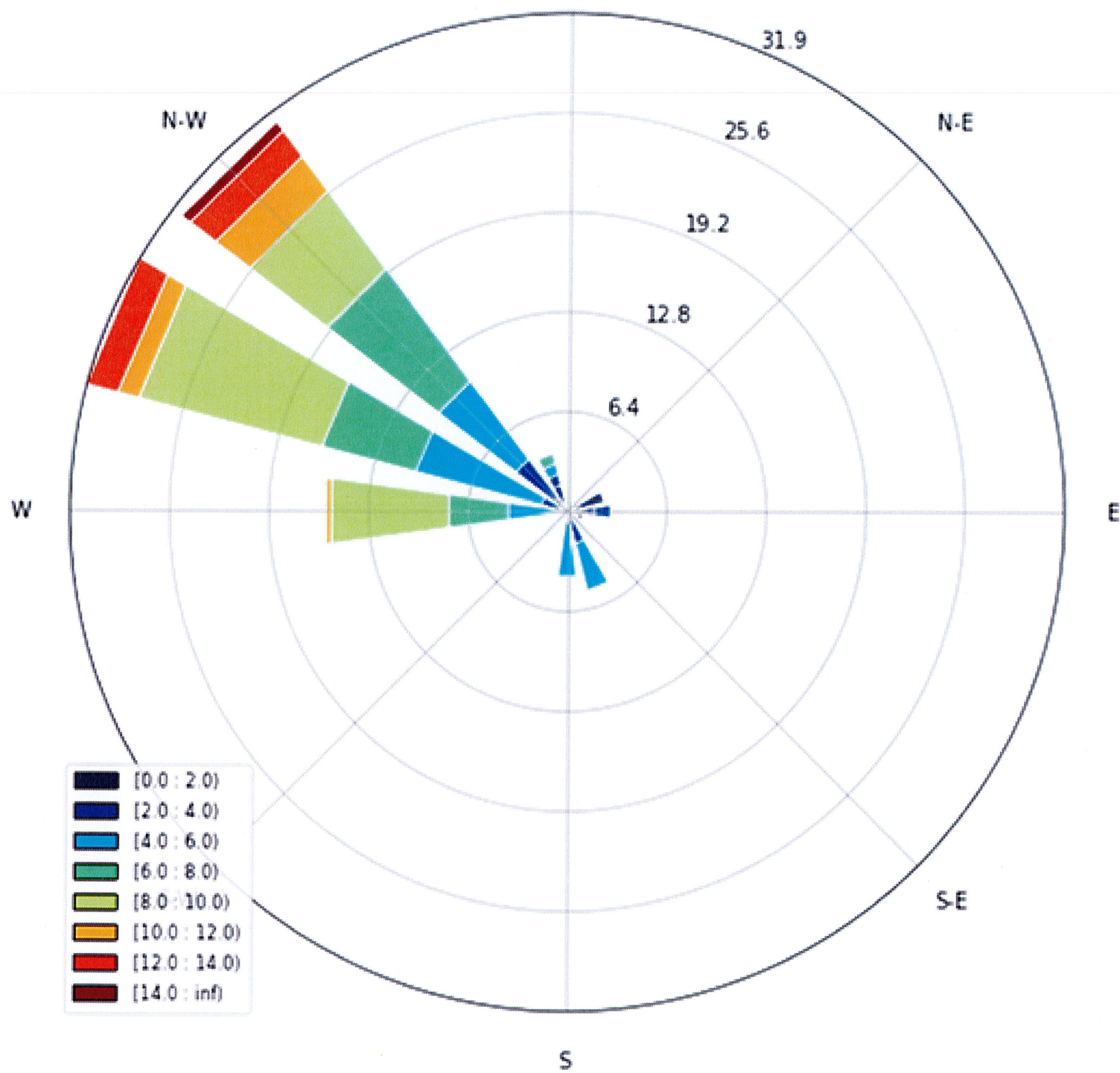
# N



FPC: April 12 2019

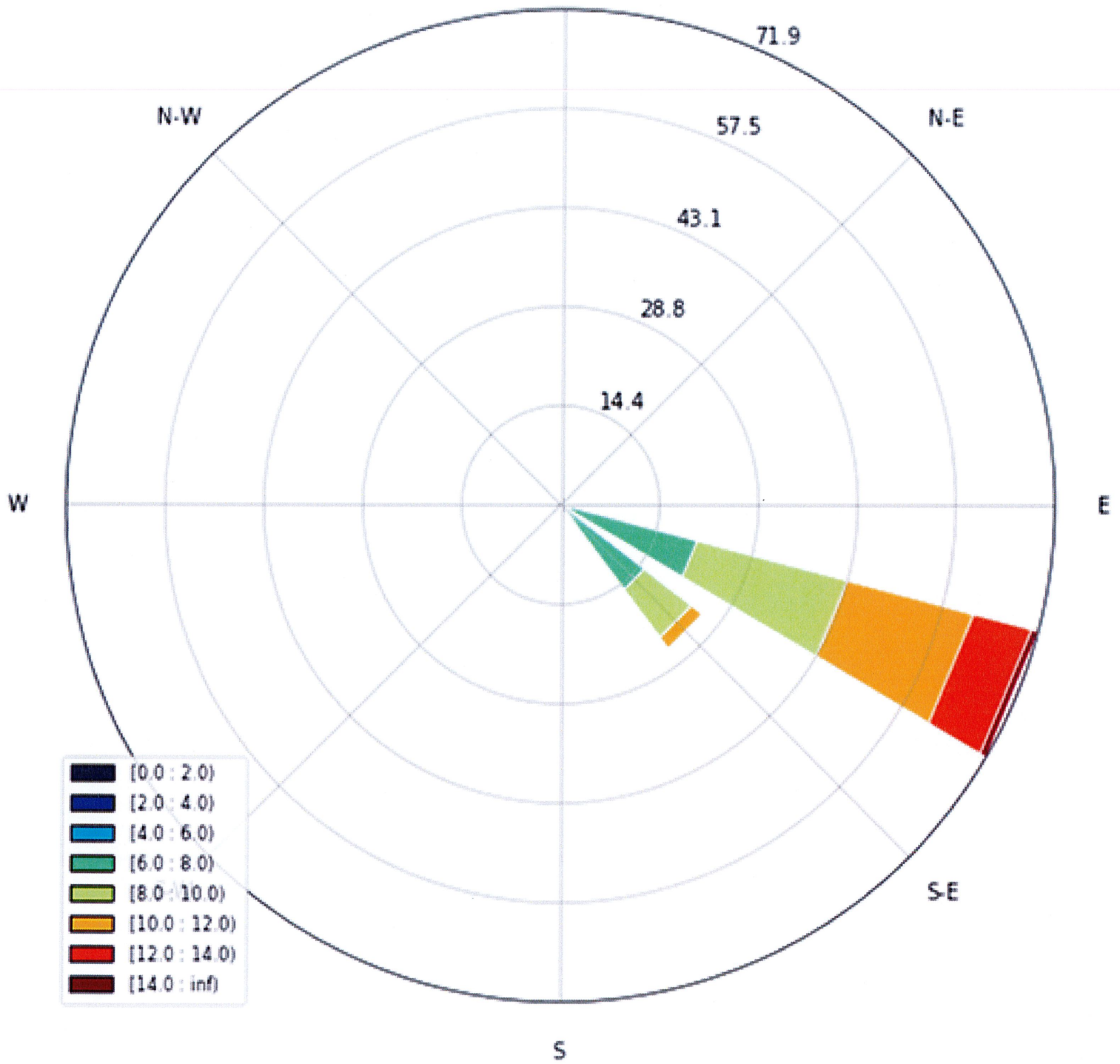


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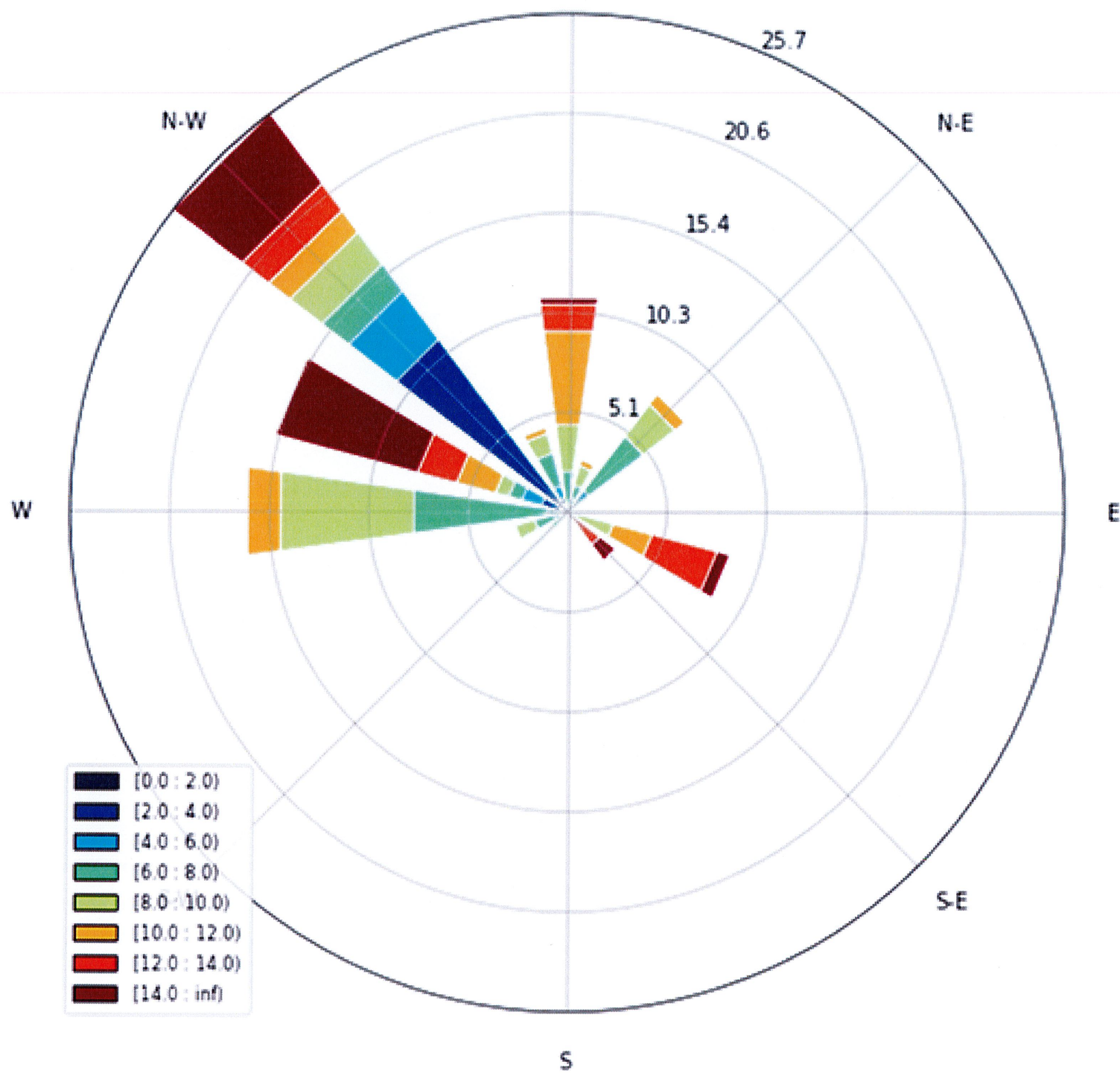




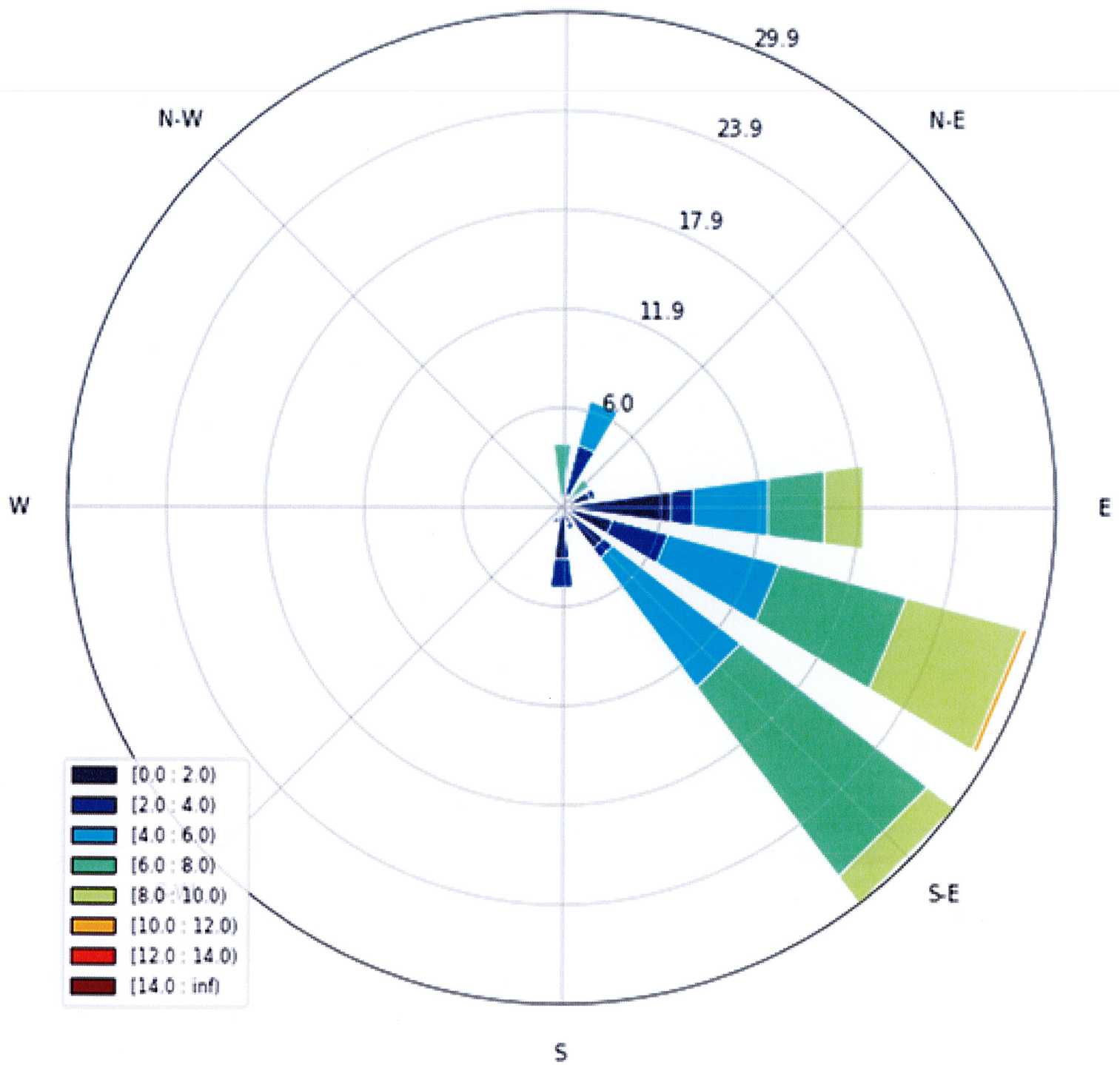
FPC: April 16 2019



# N

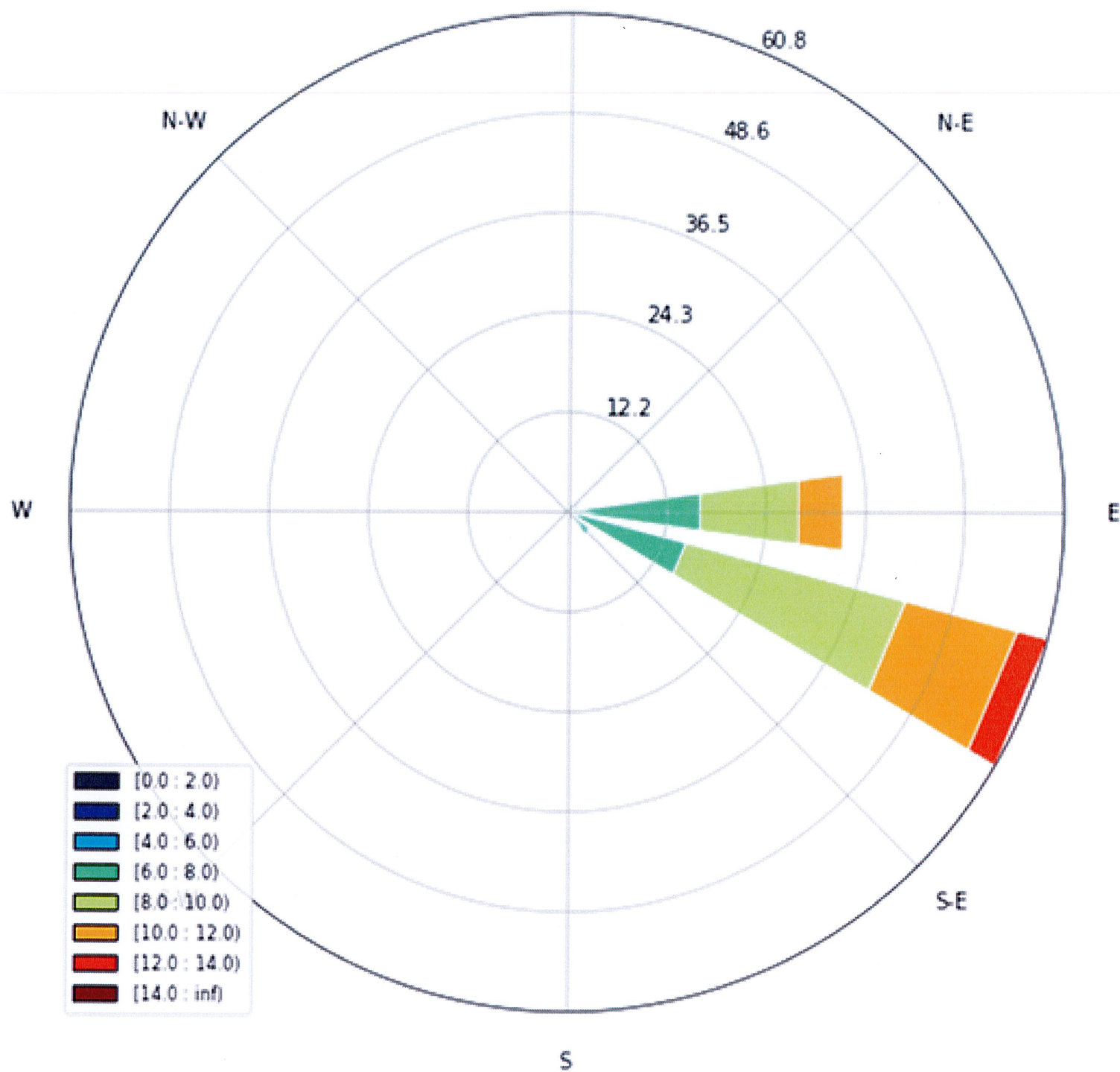


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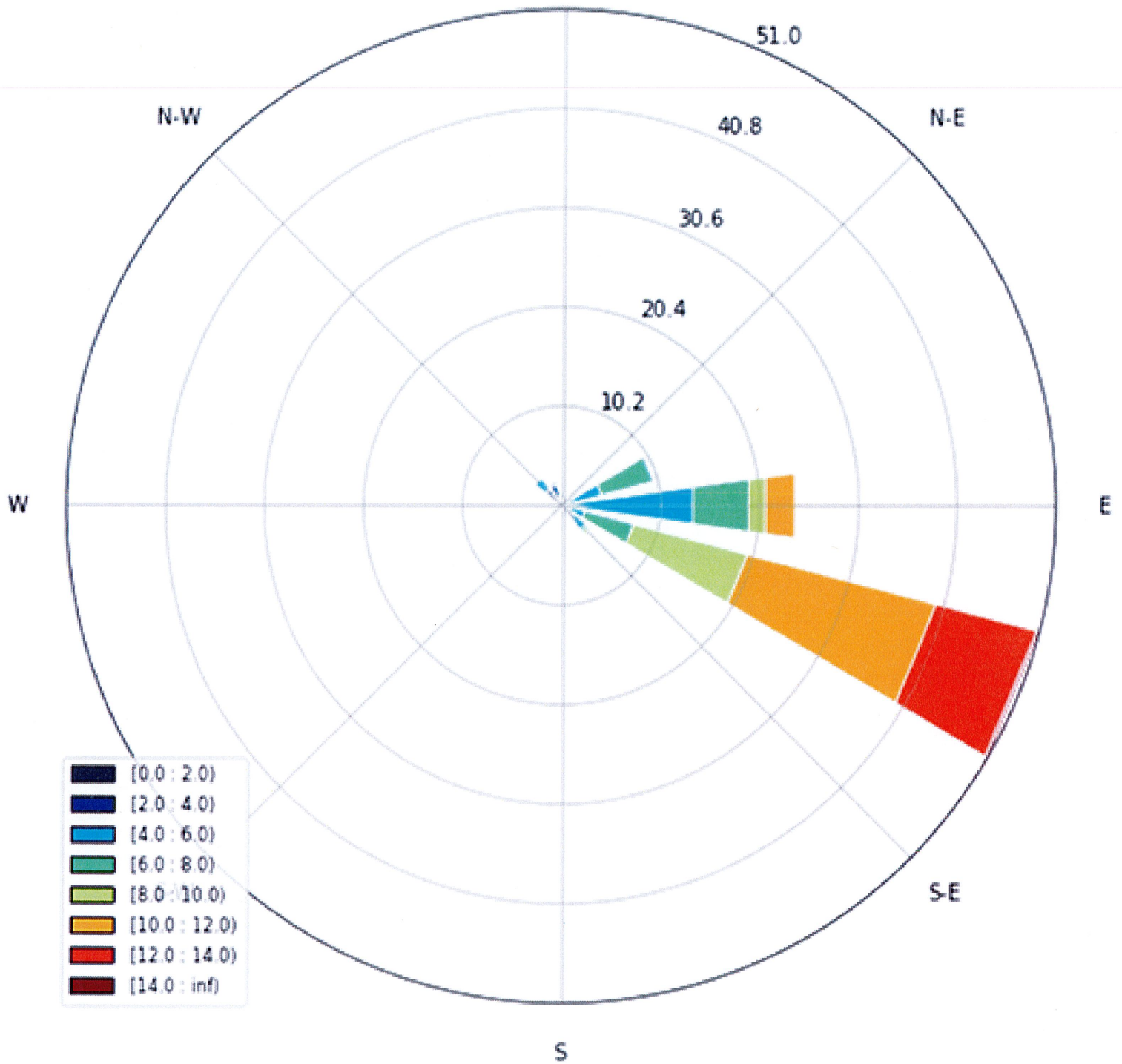




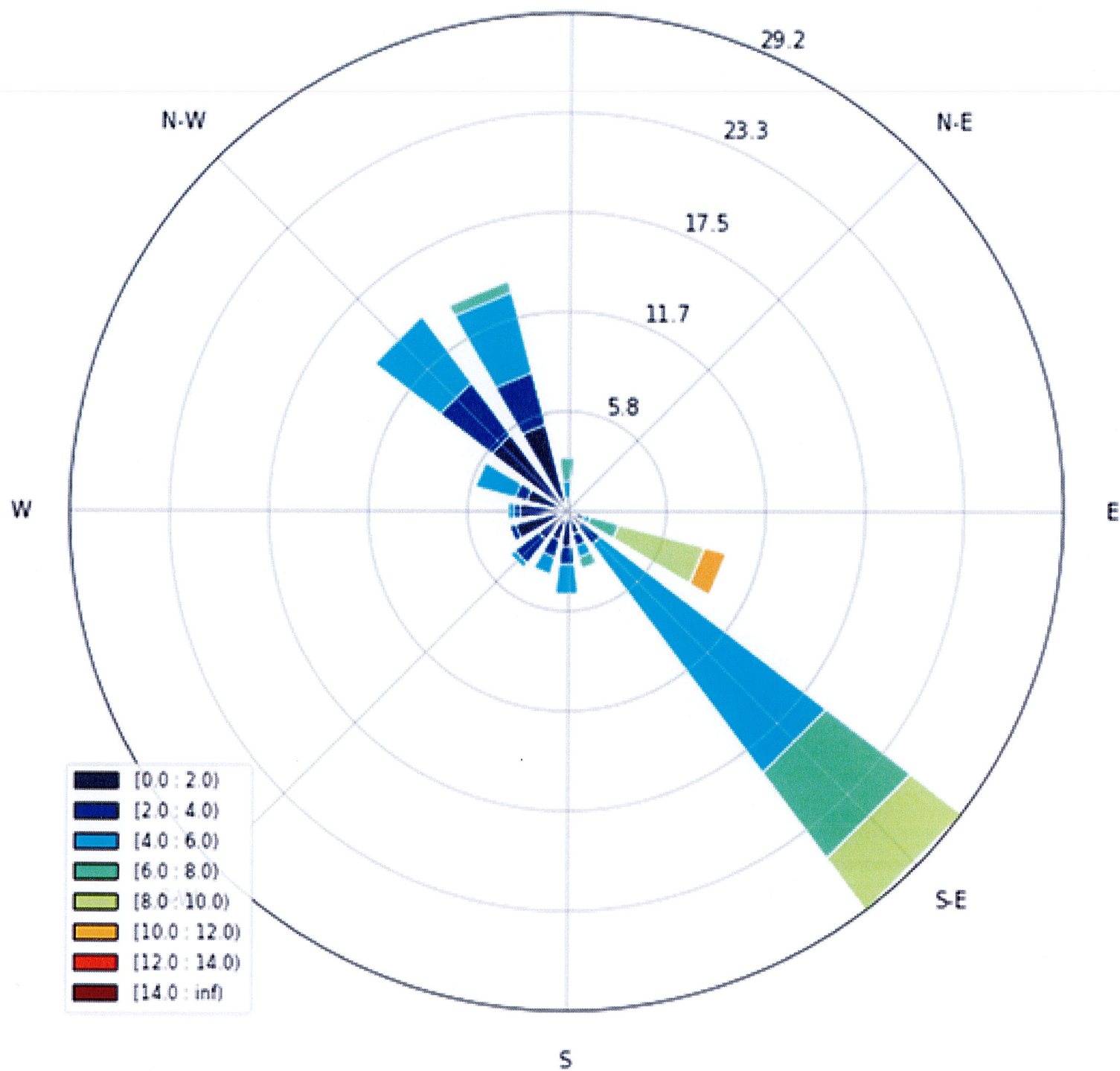
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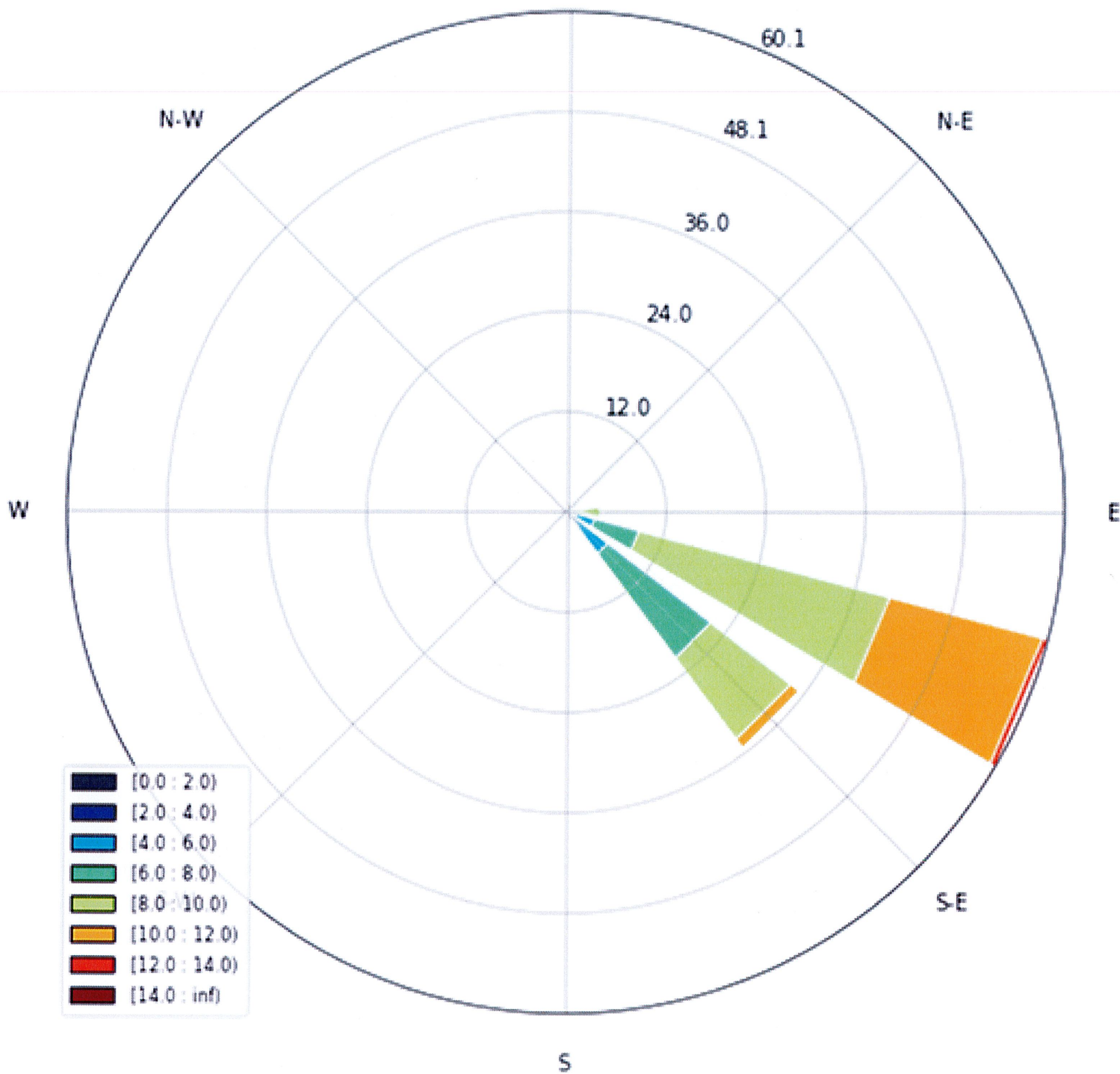


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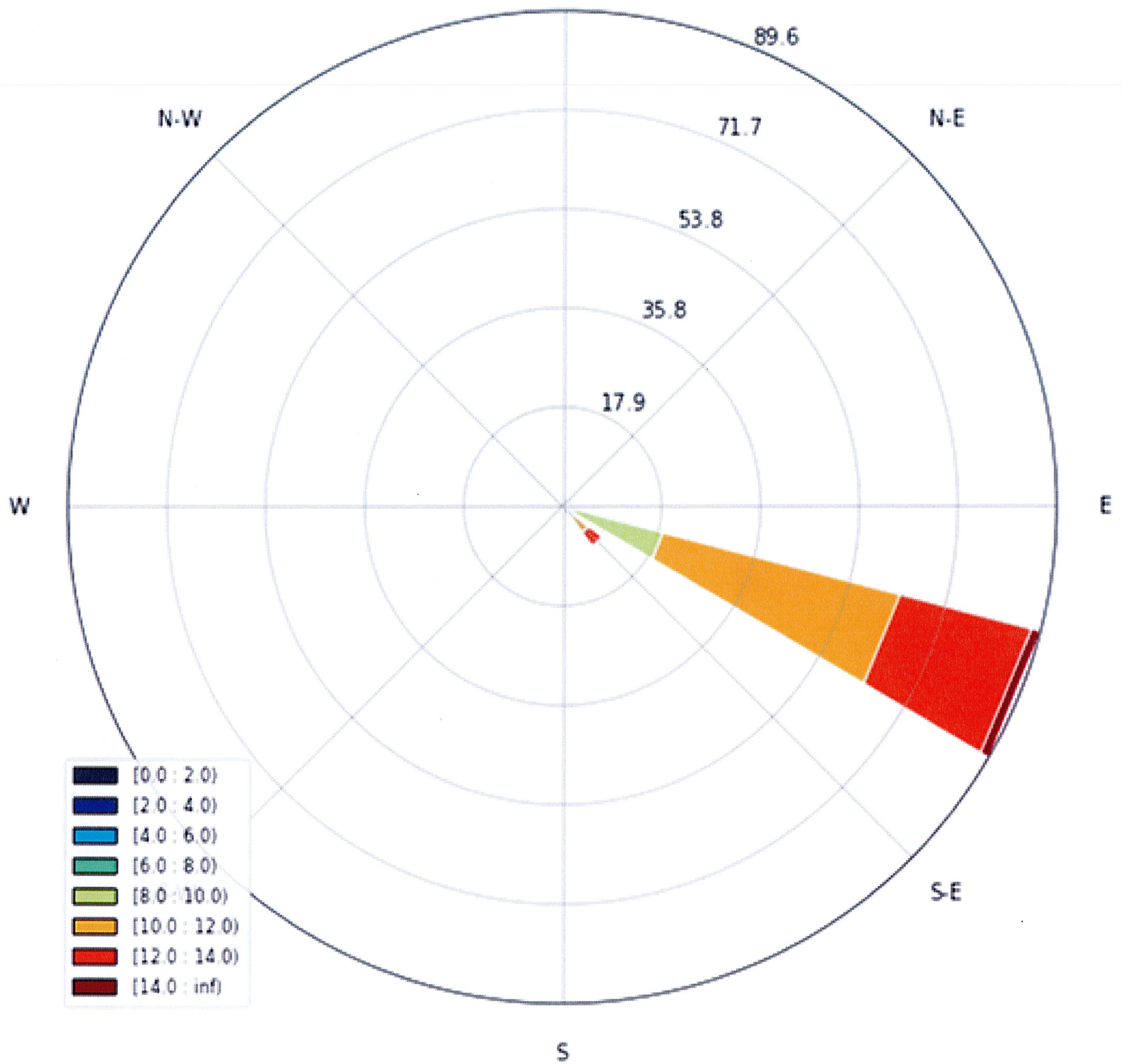




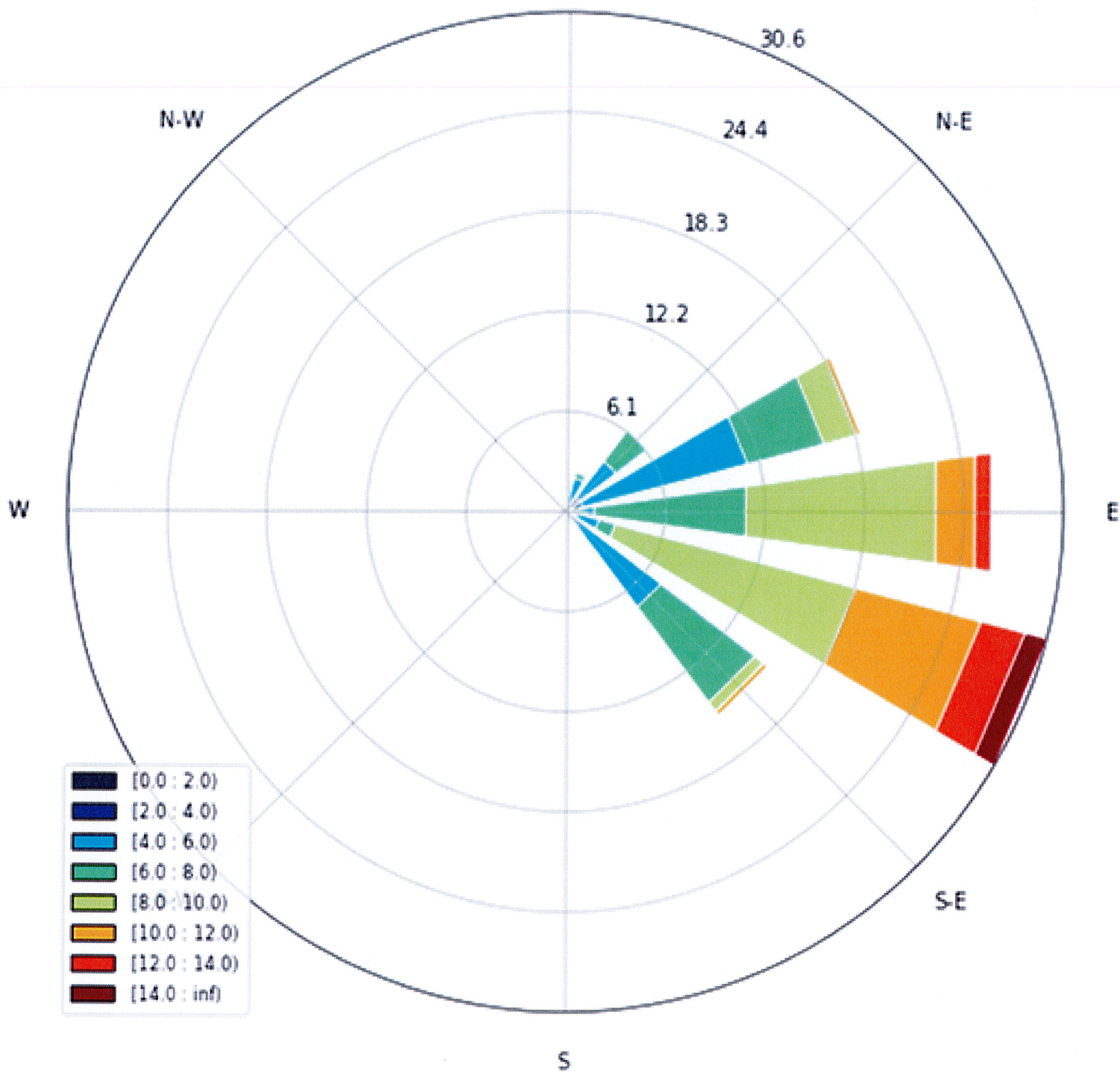
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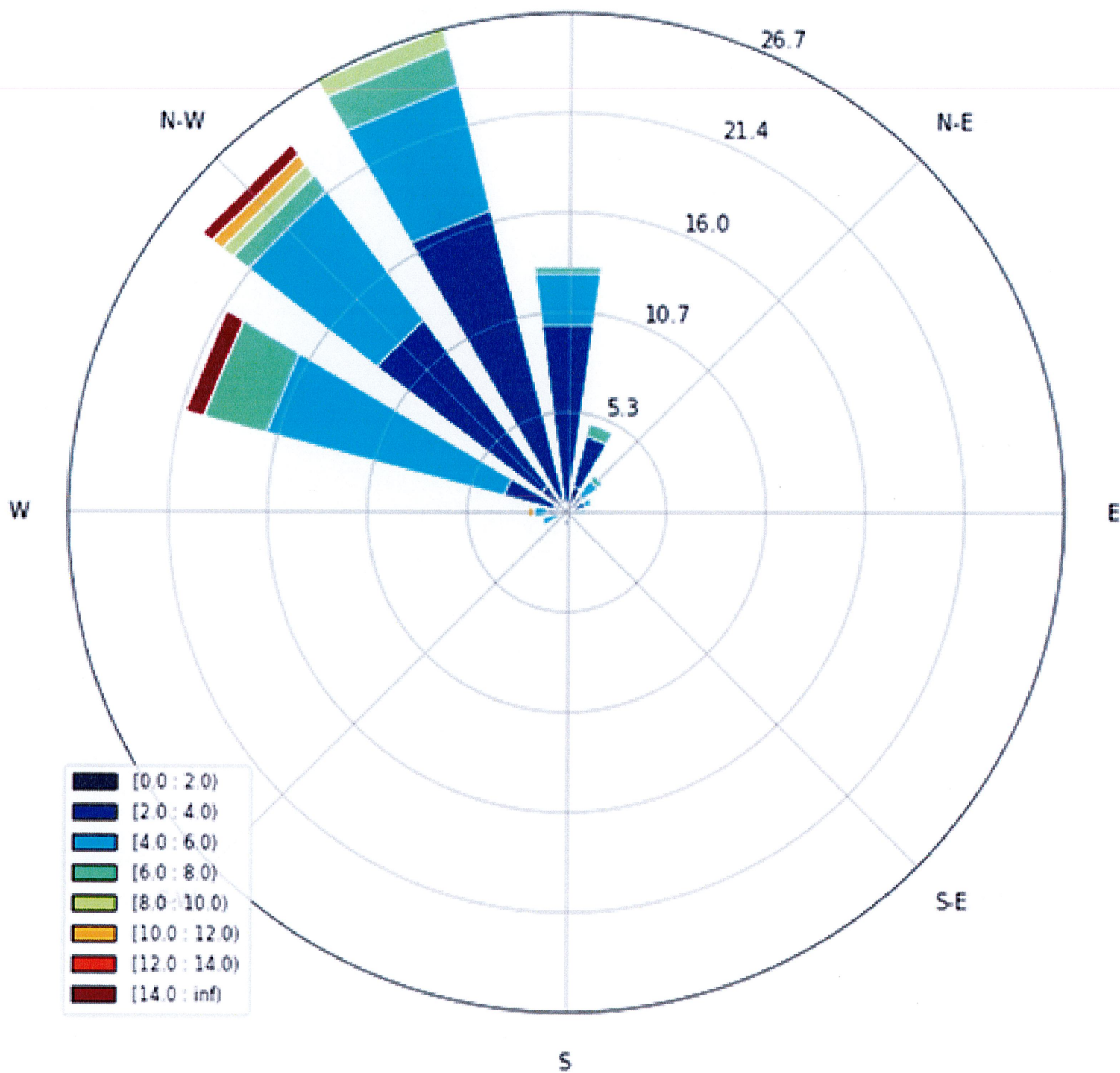
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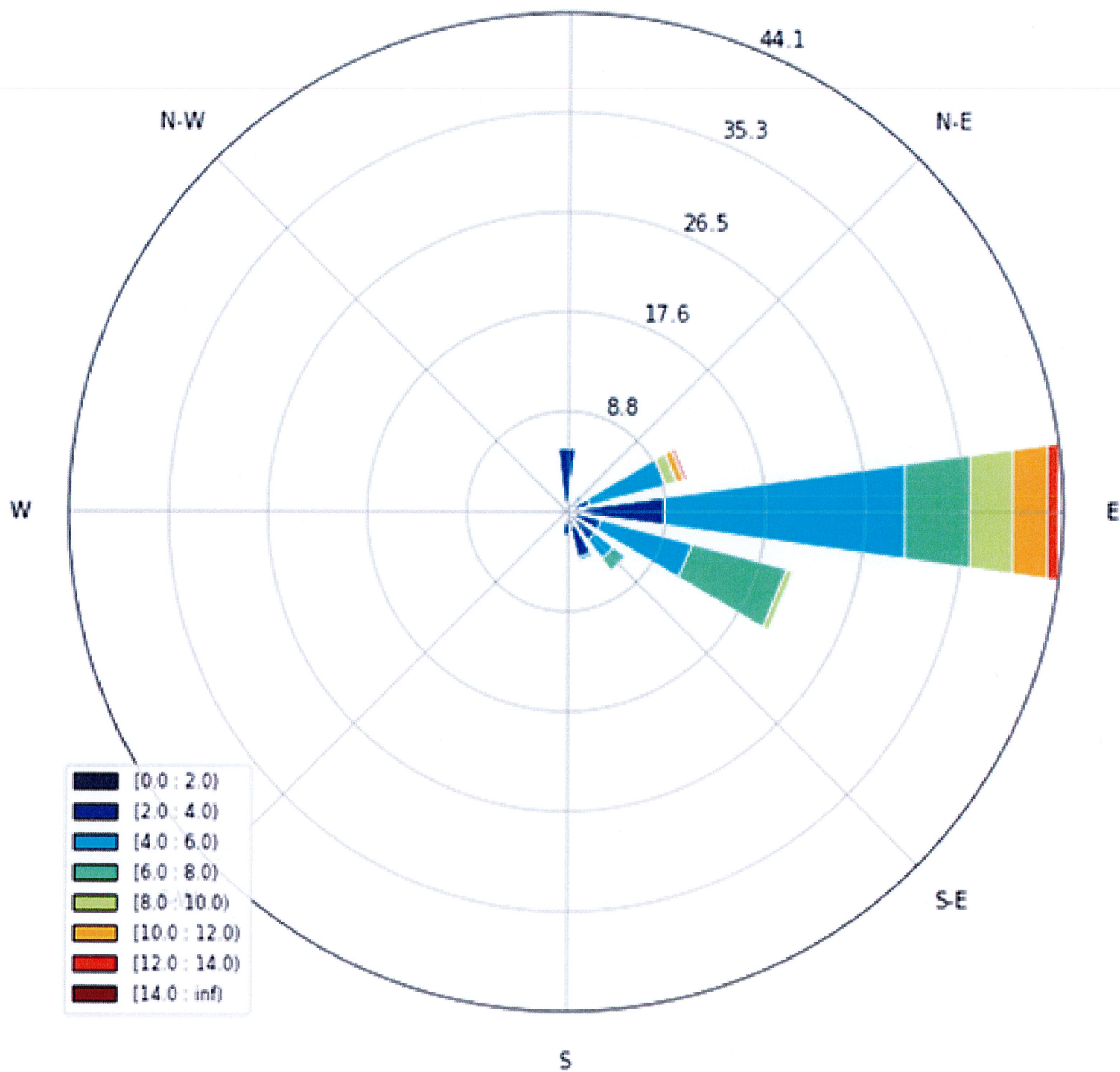
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4

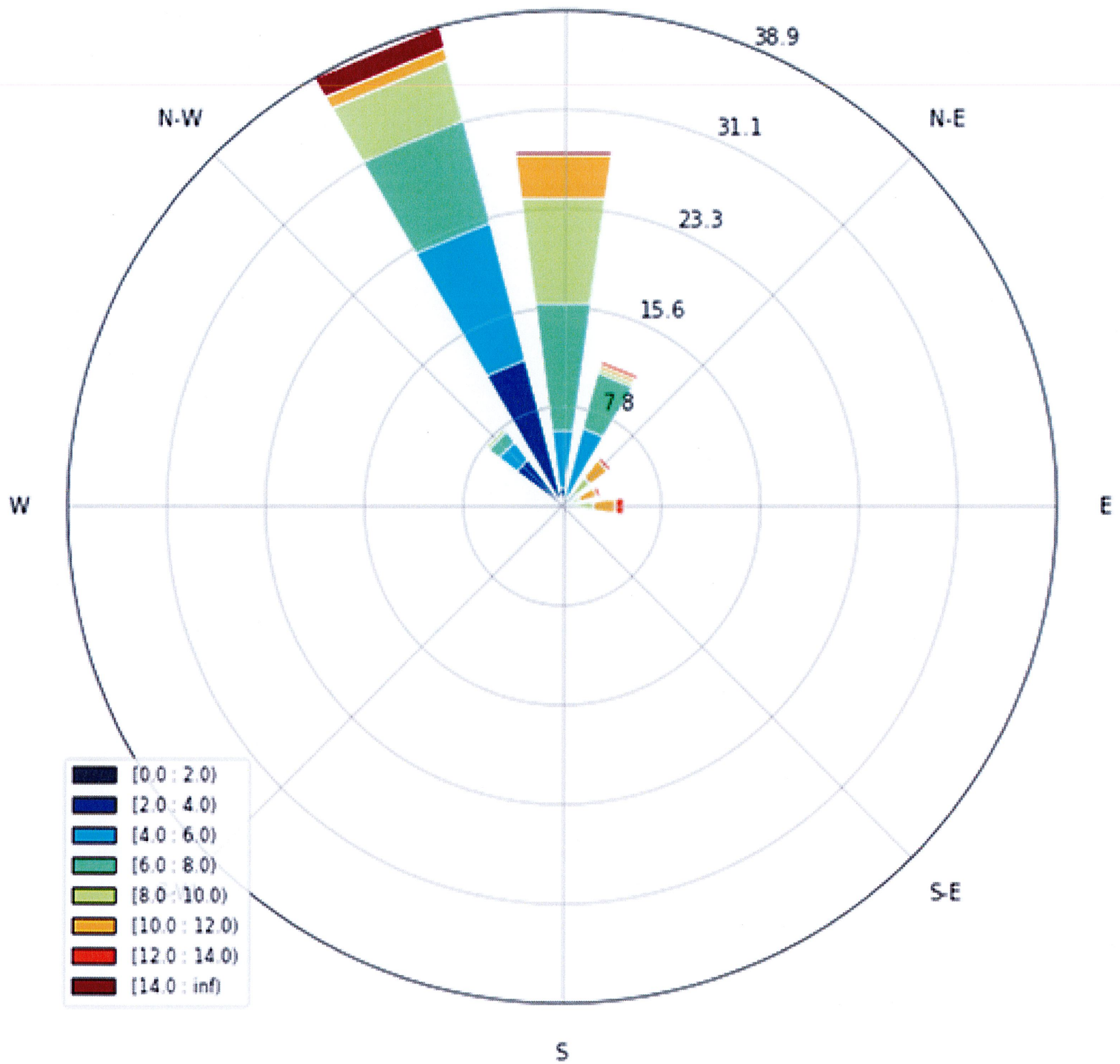


A

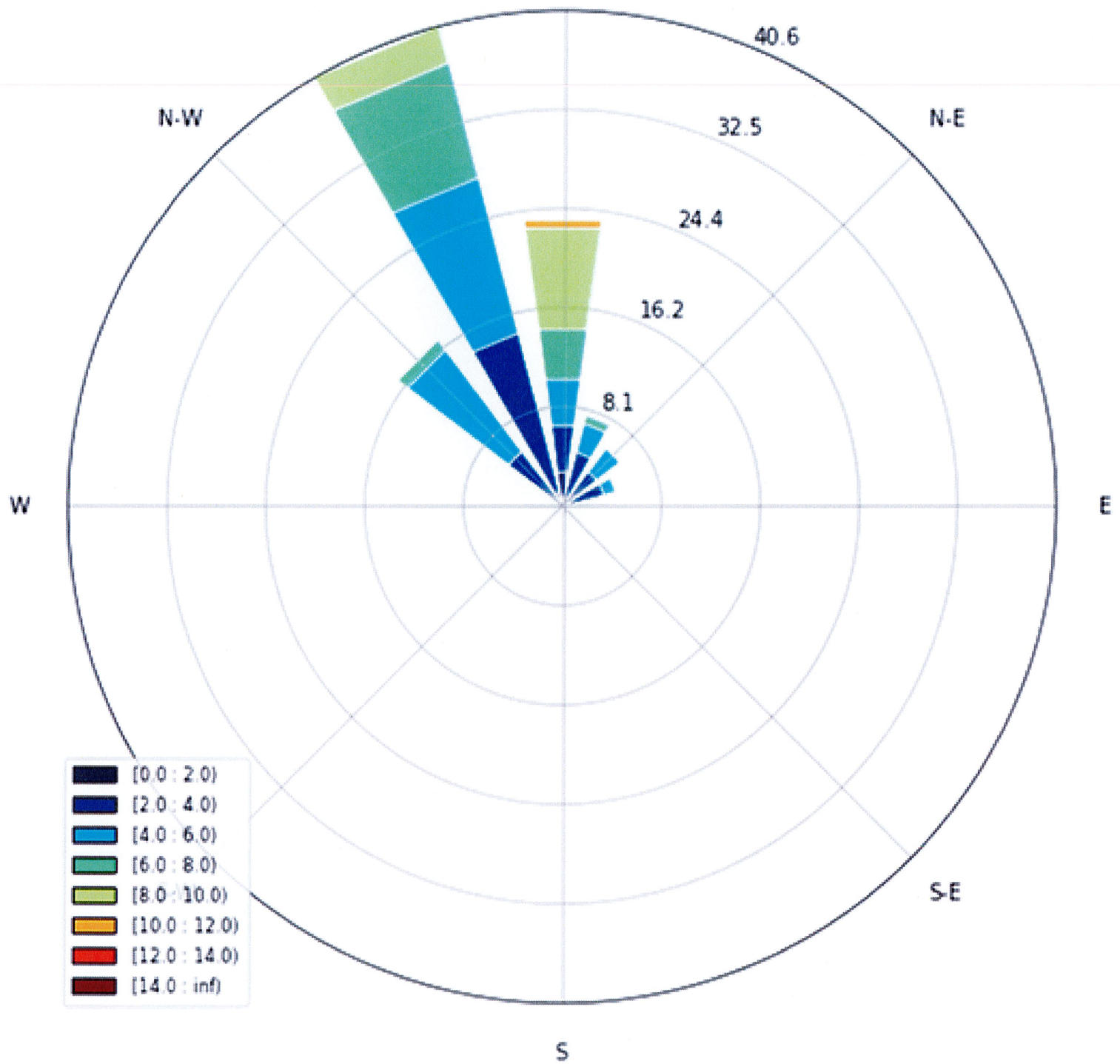




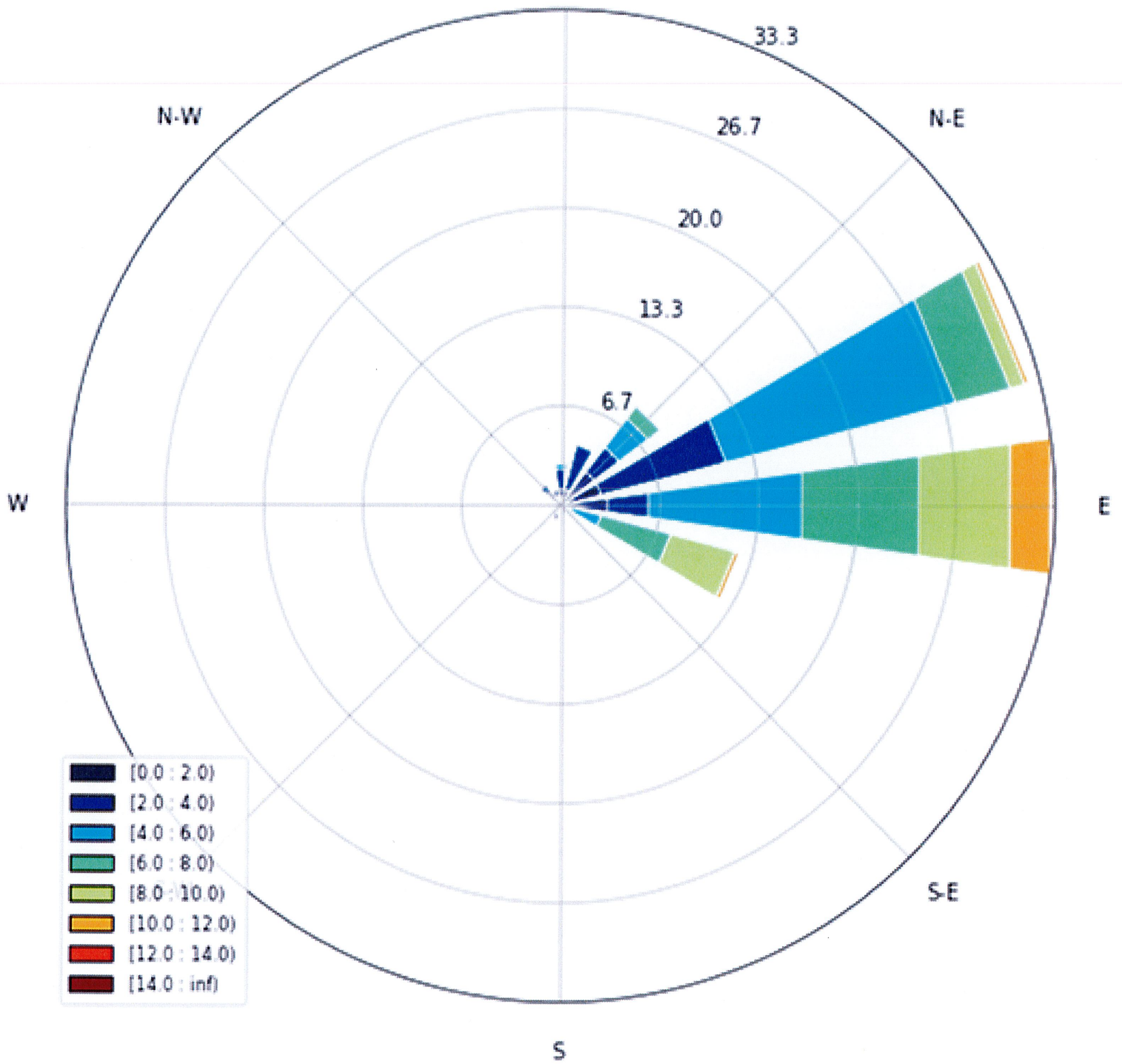
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4

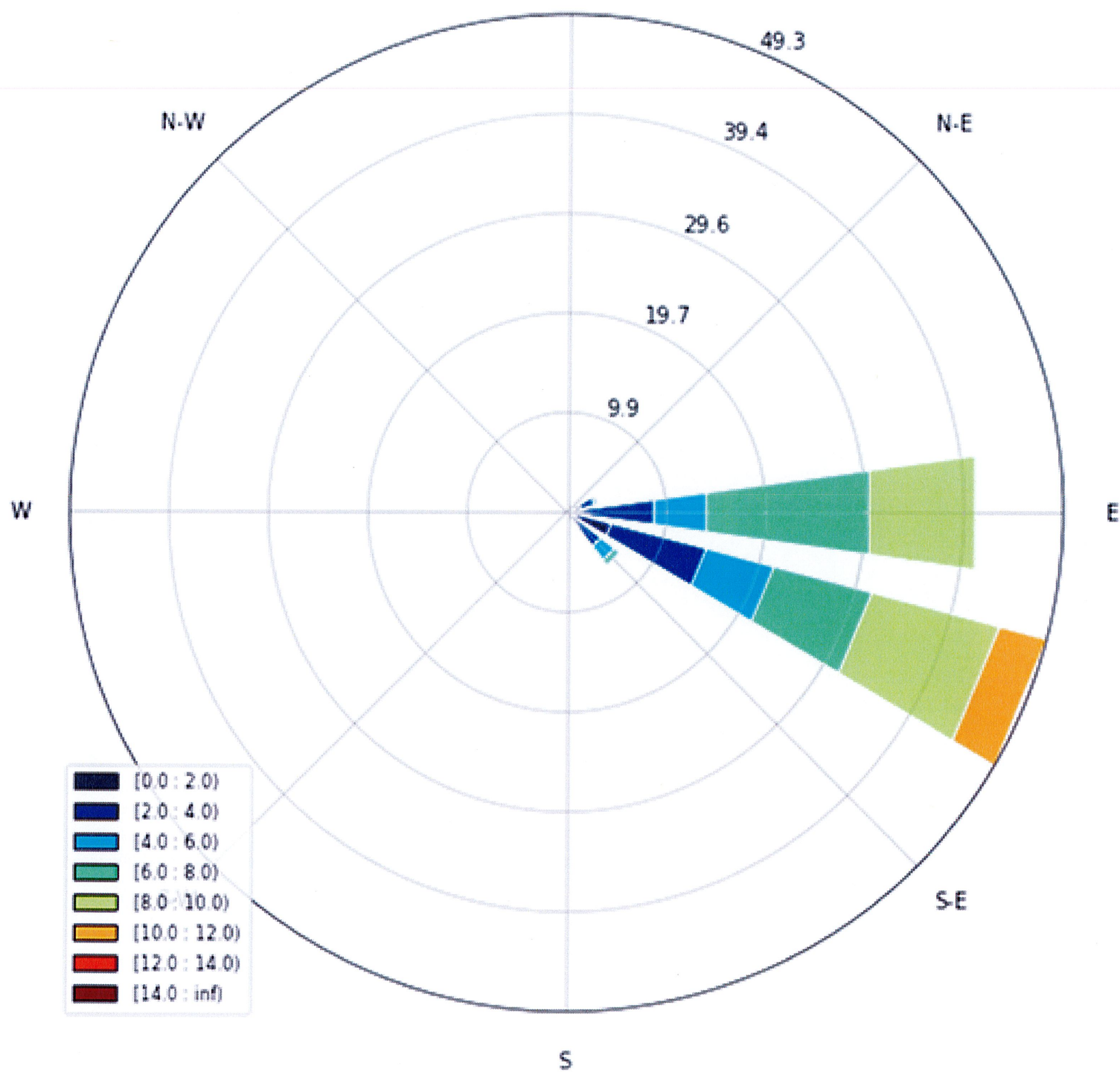


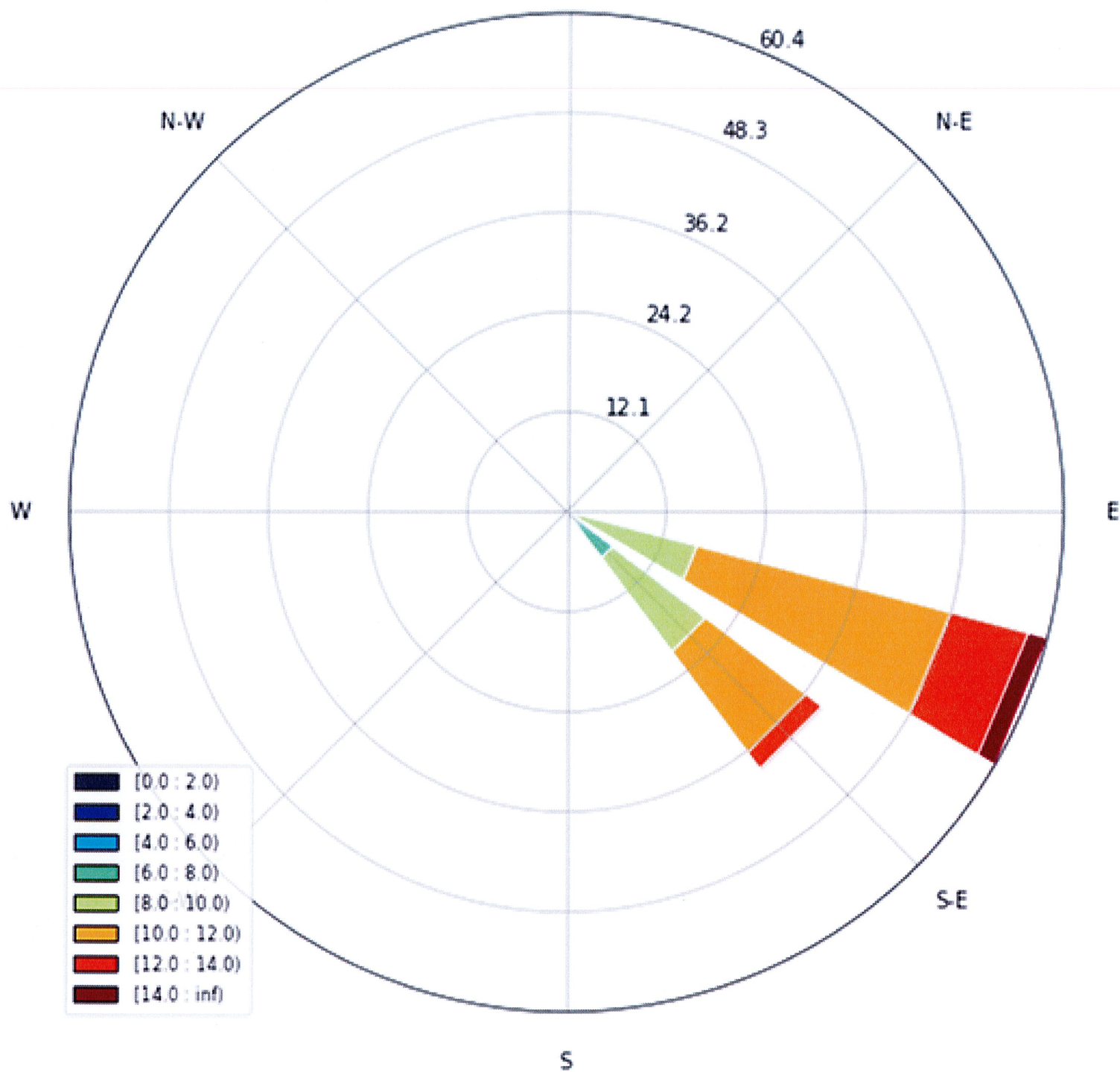
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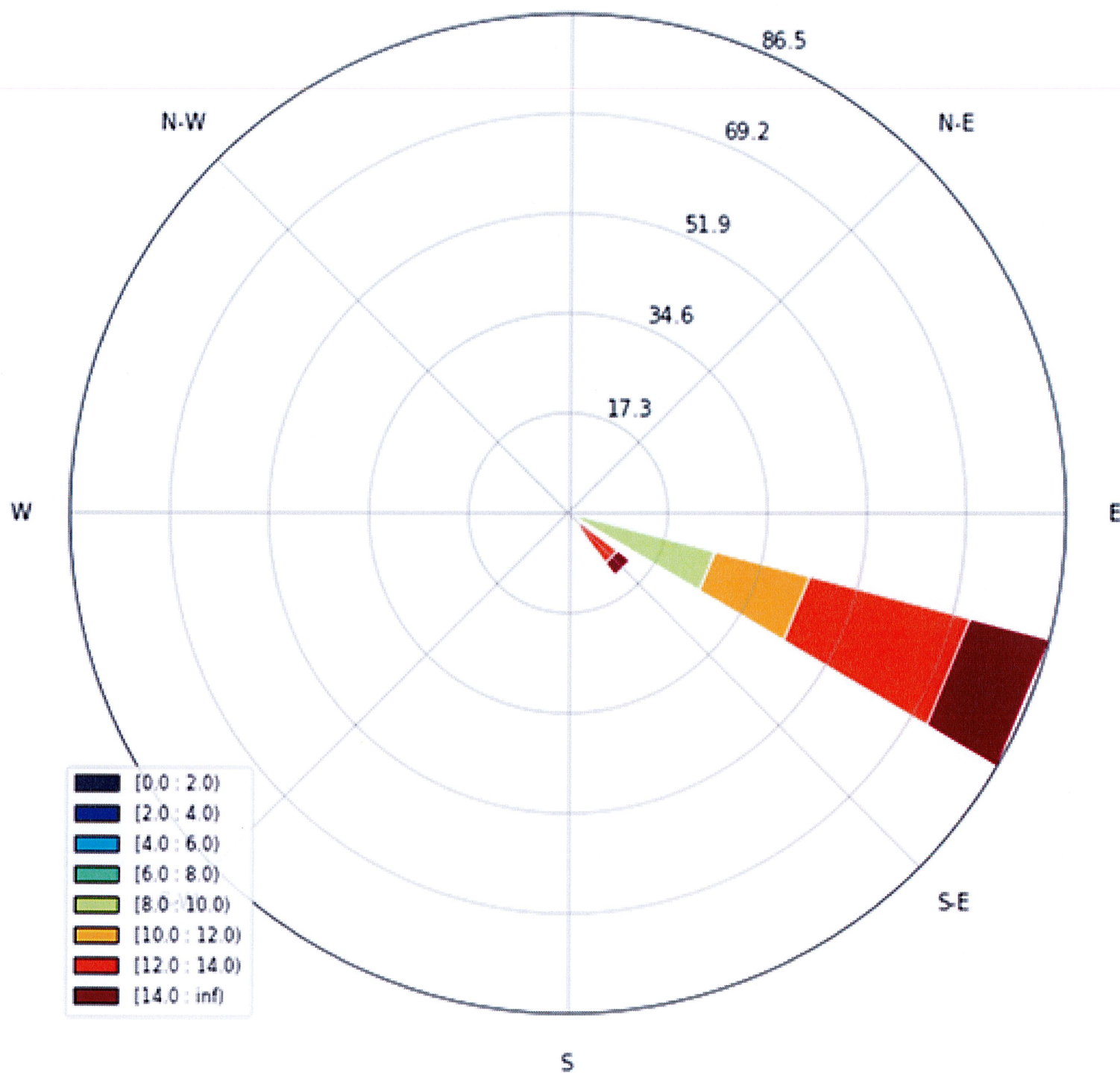




4

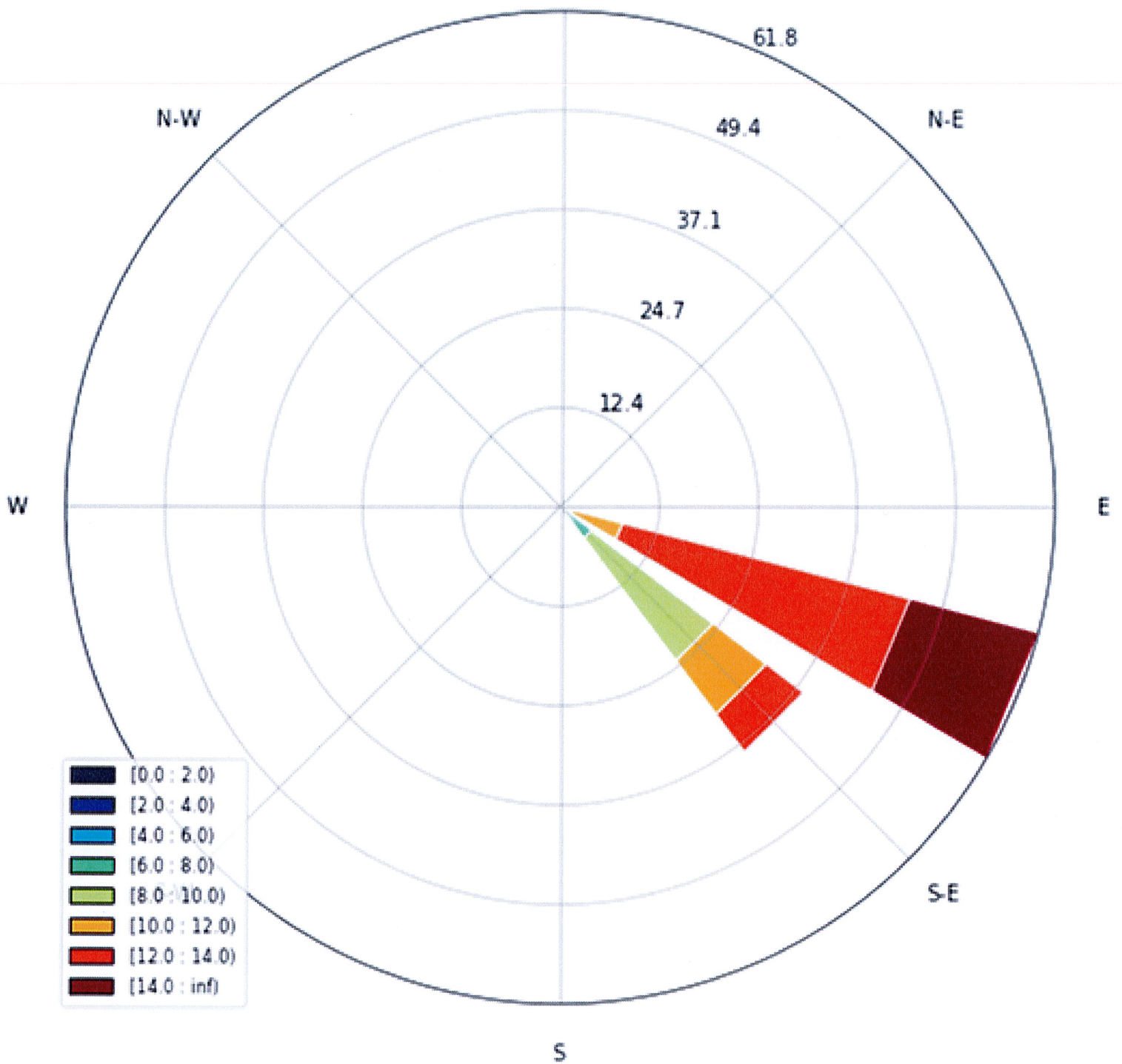




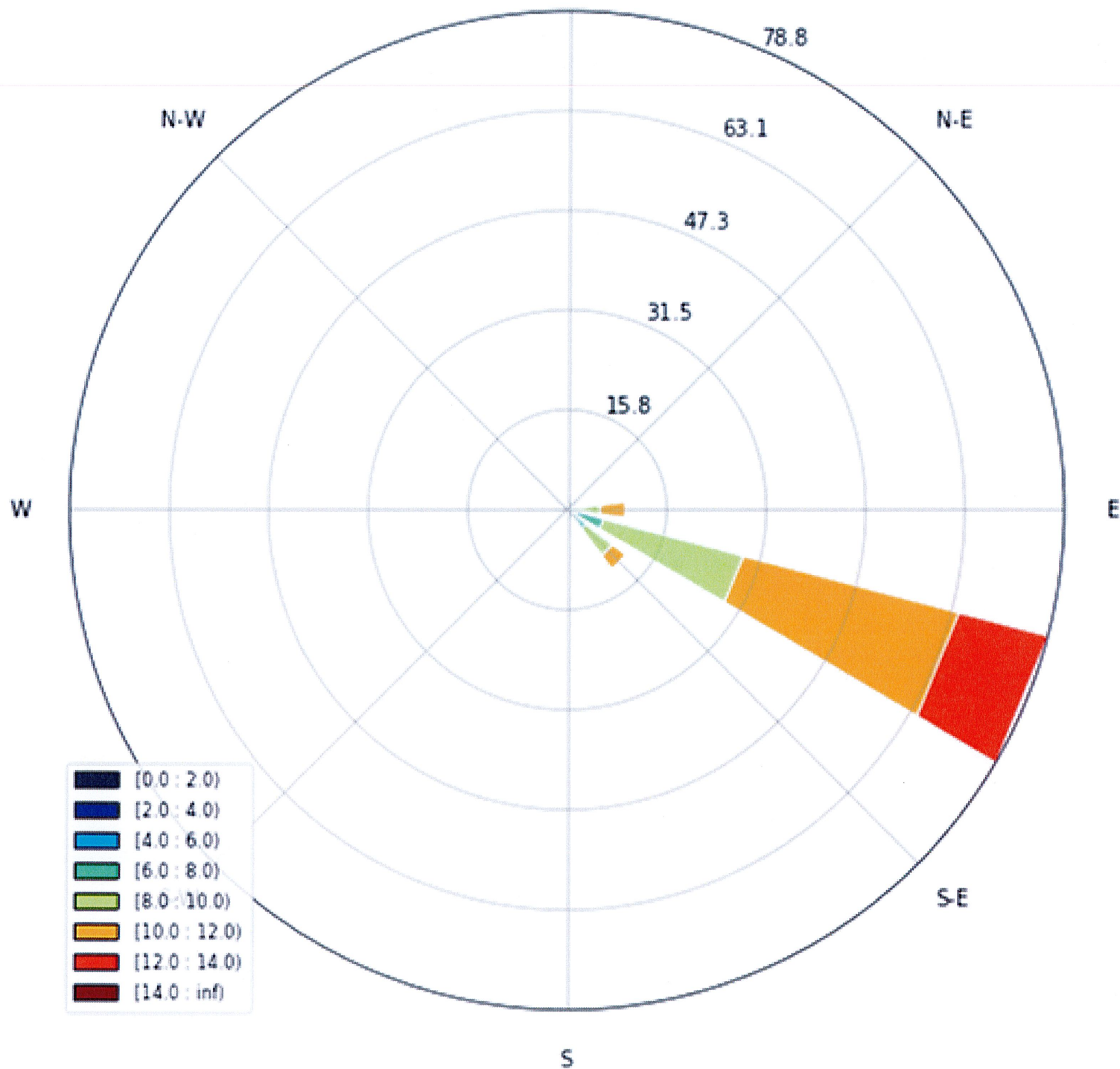


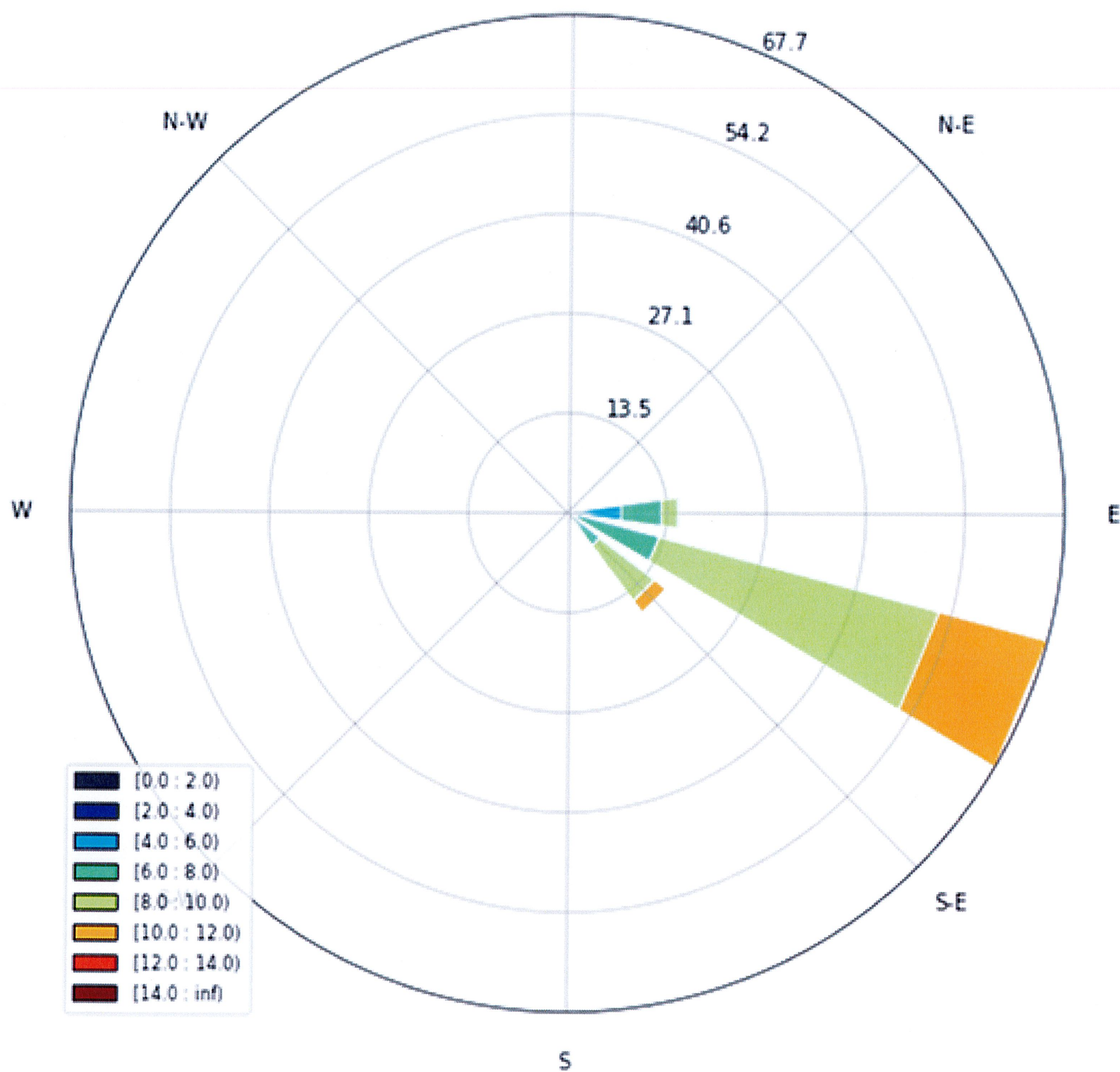


FPC: May 22 2019



FPC: May 24 2019

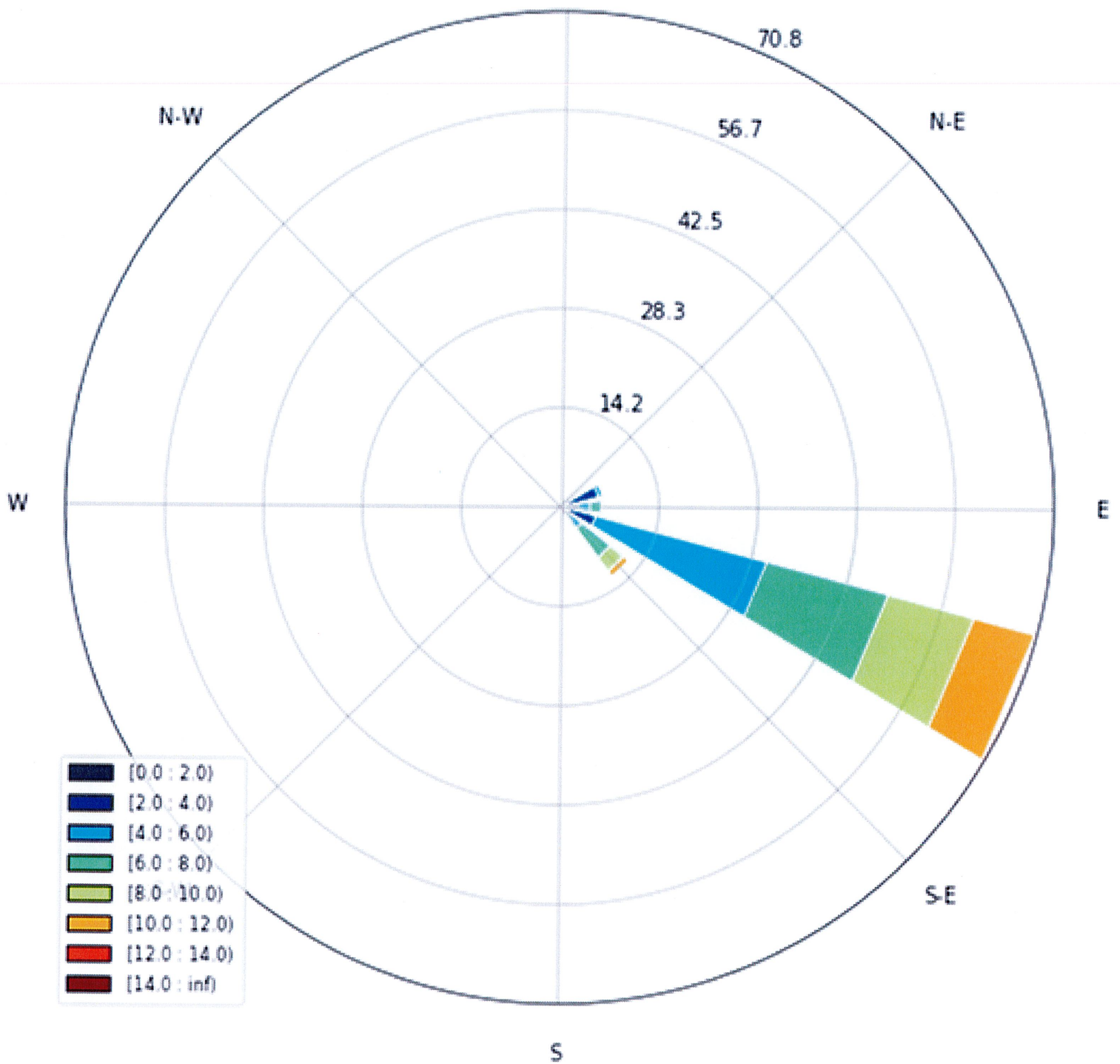




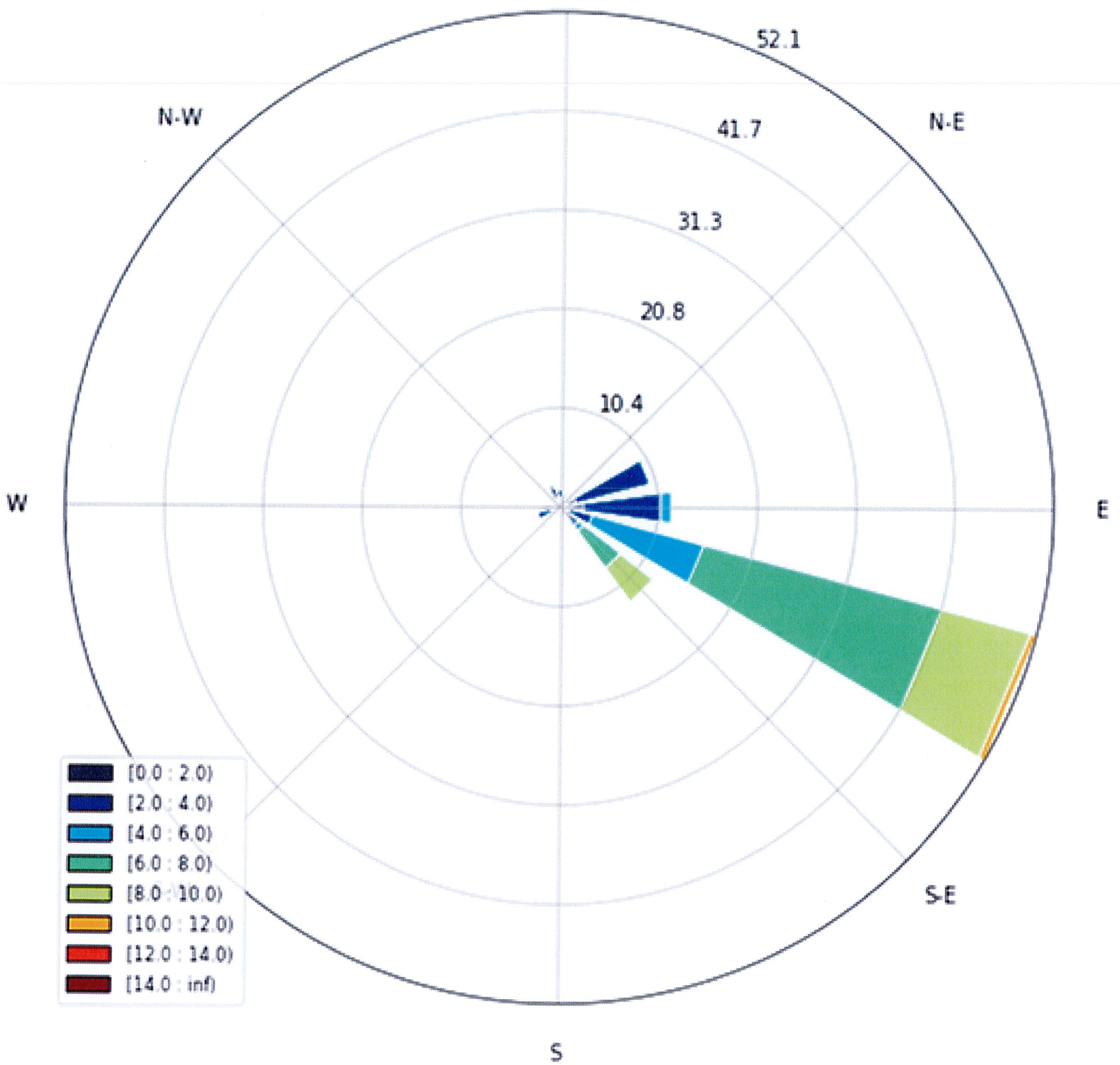




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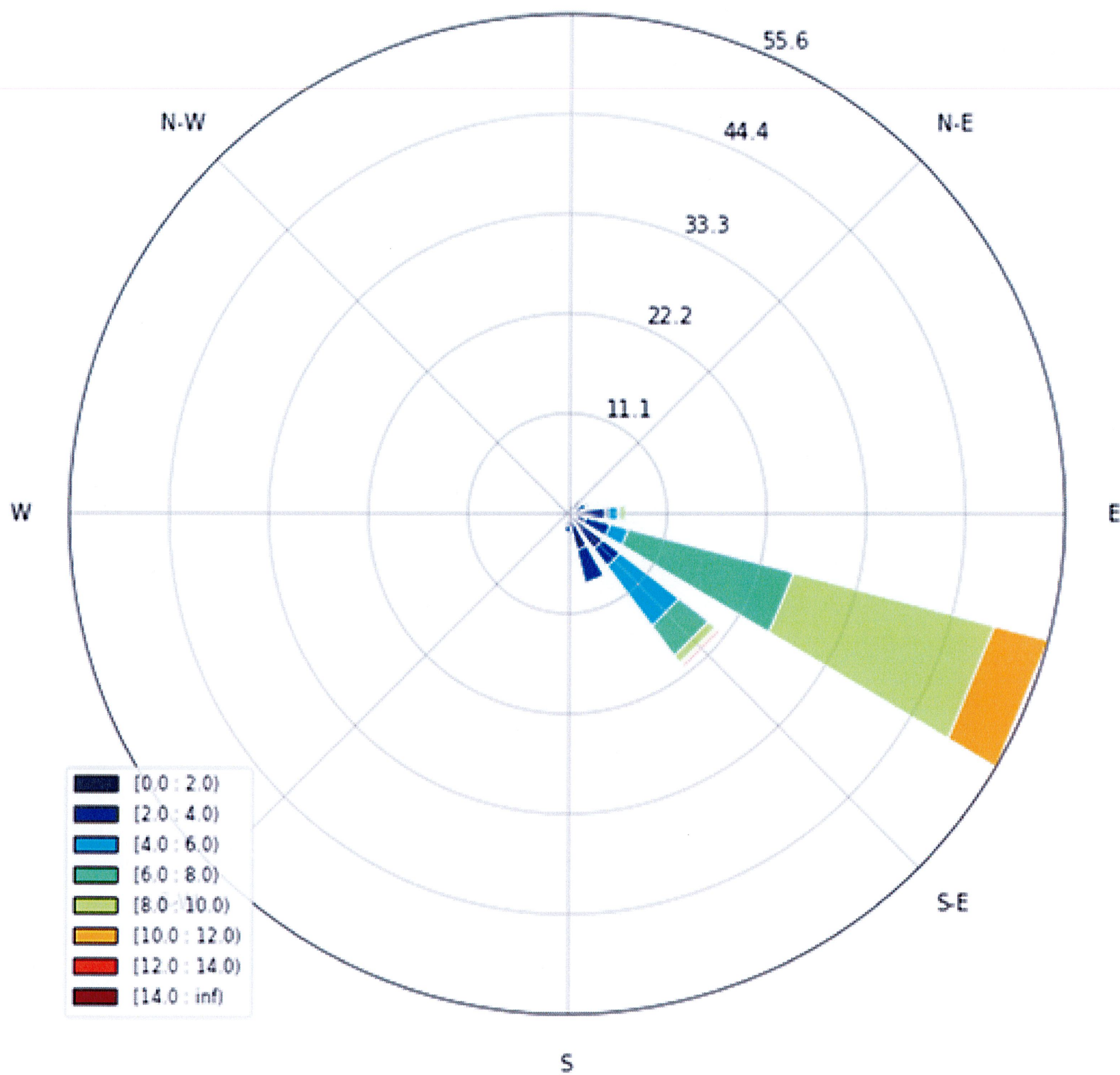


FPC: June 1 2019



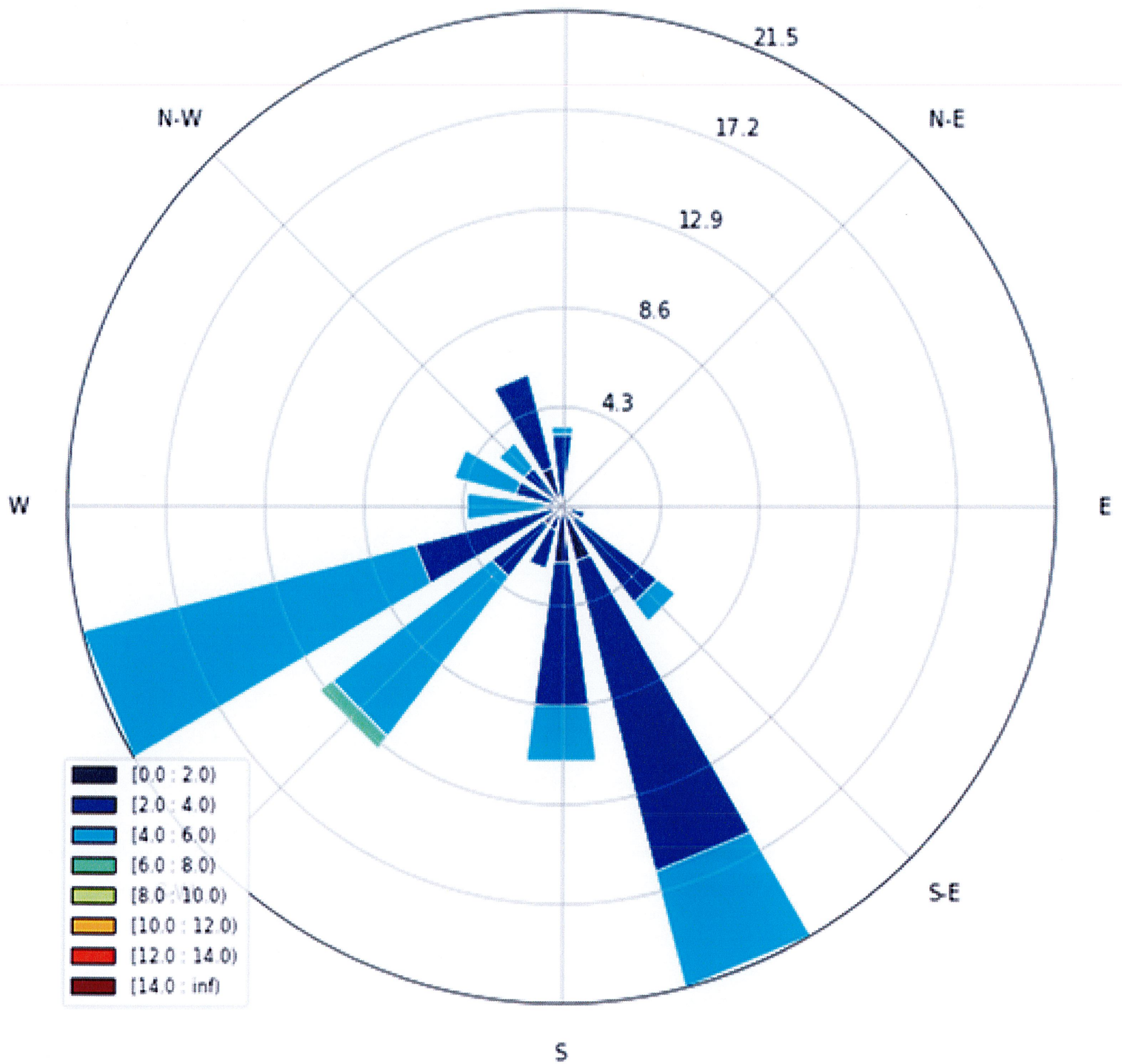


## N



## N



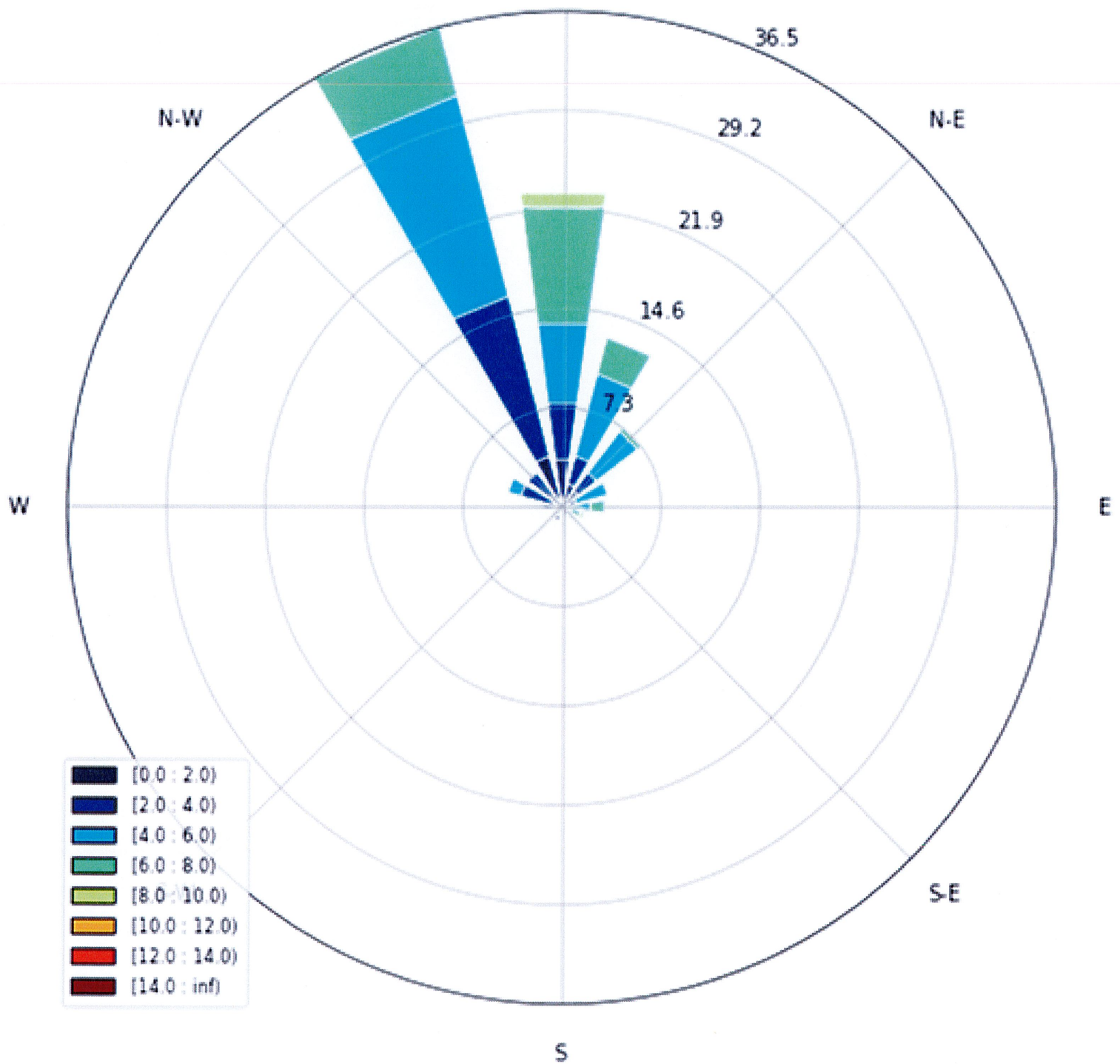




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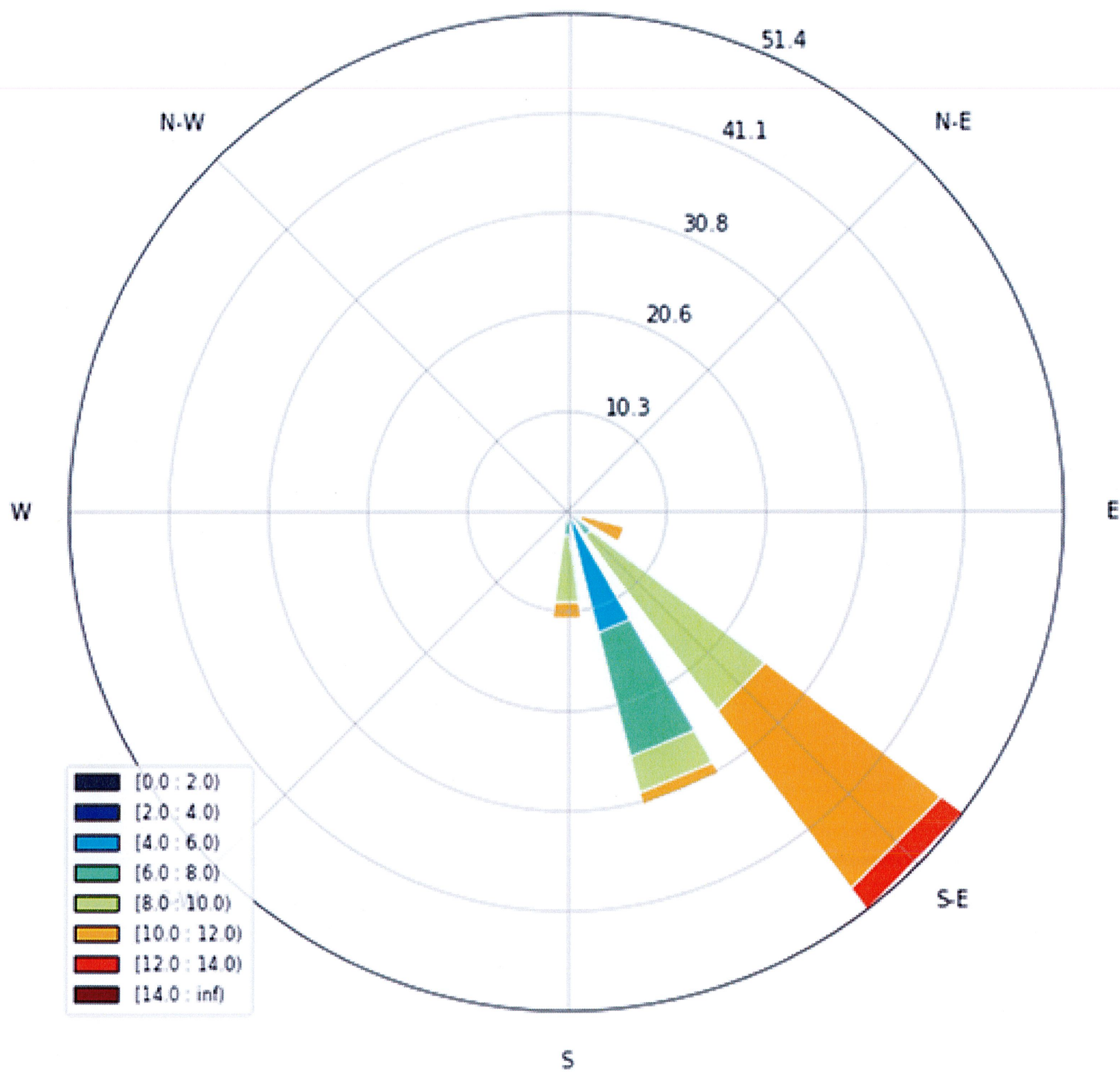


**H**

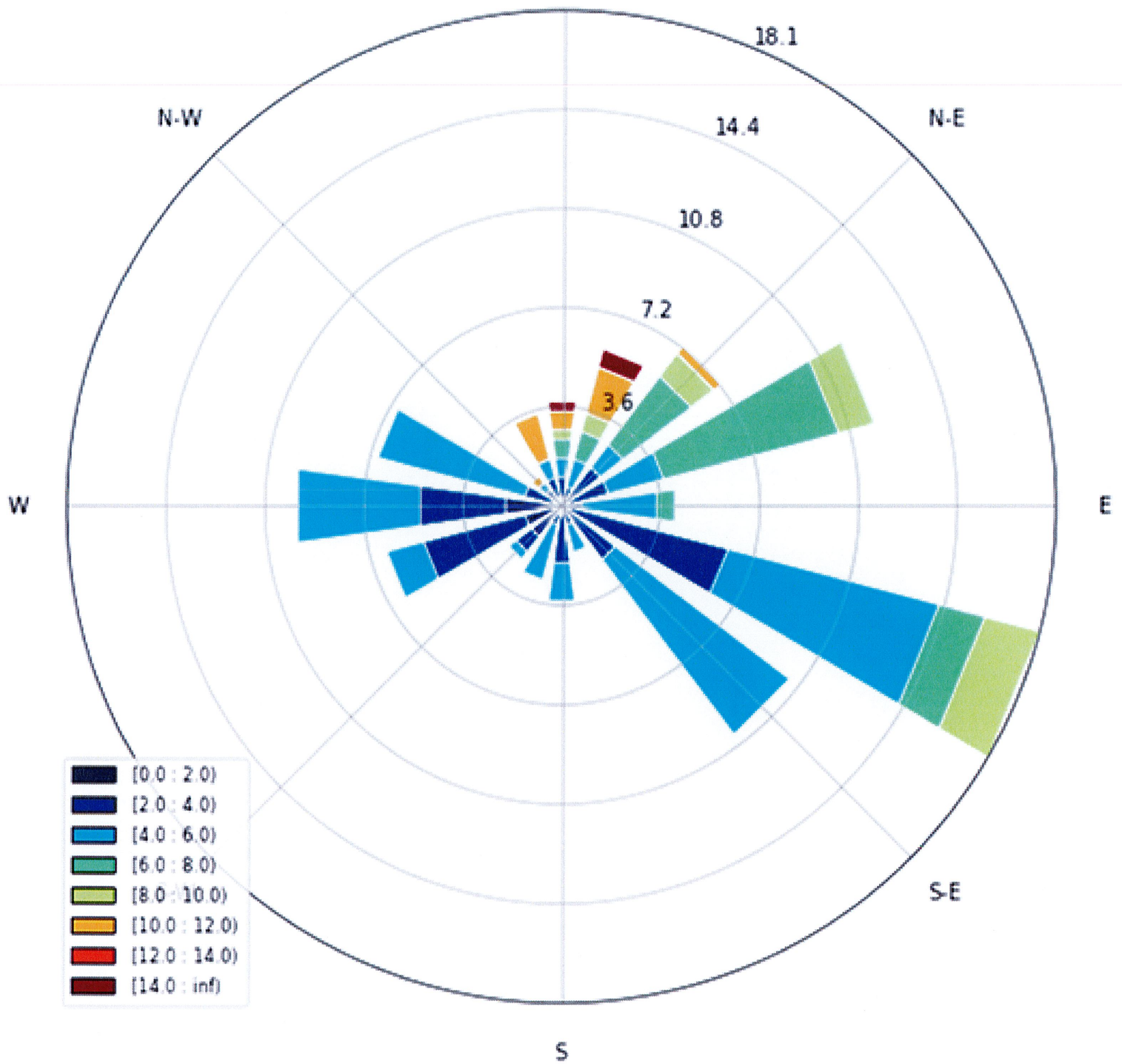




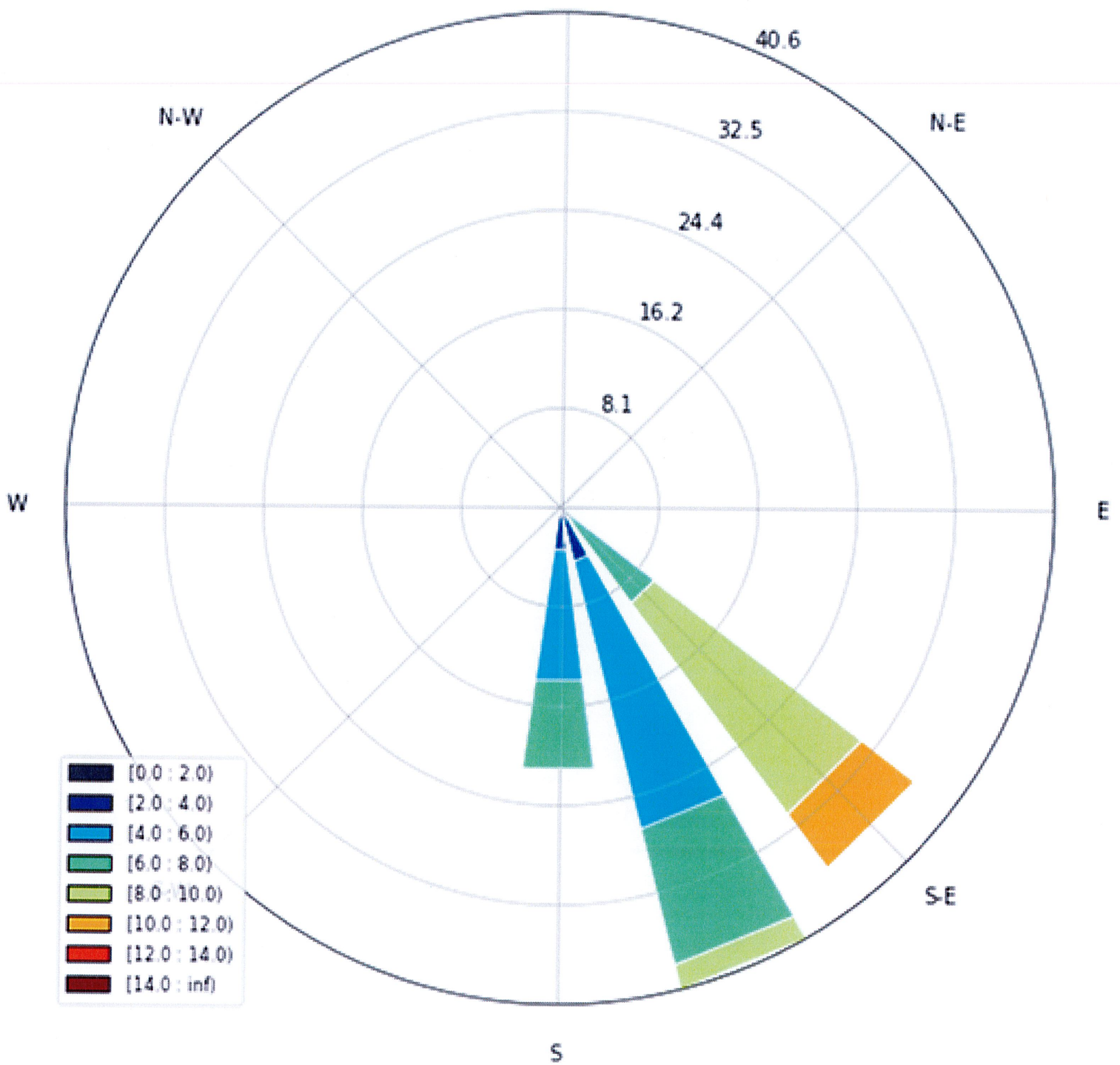
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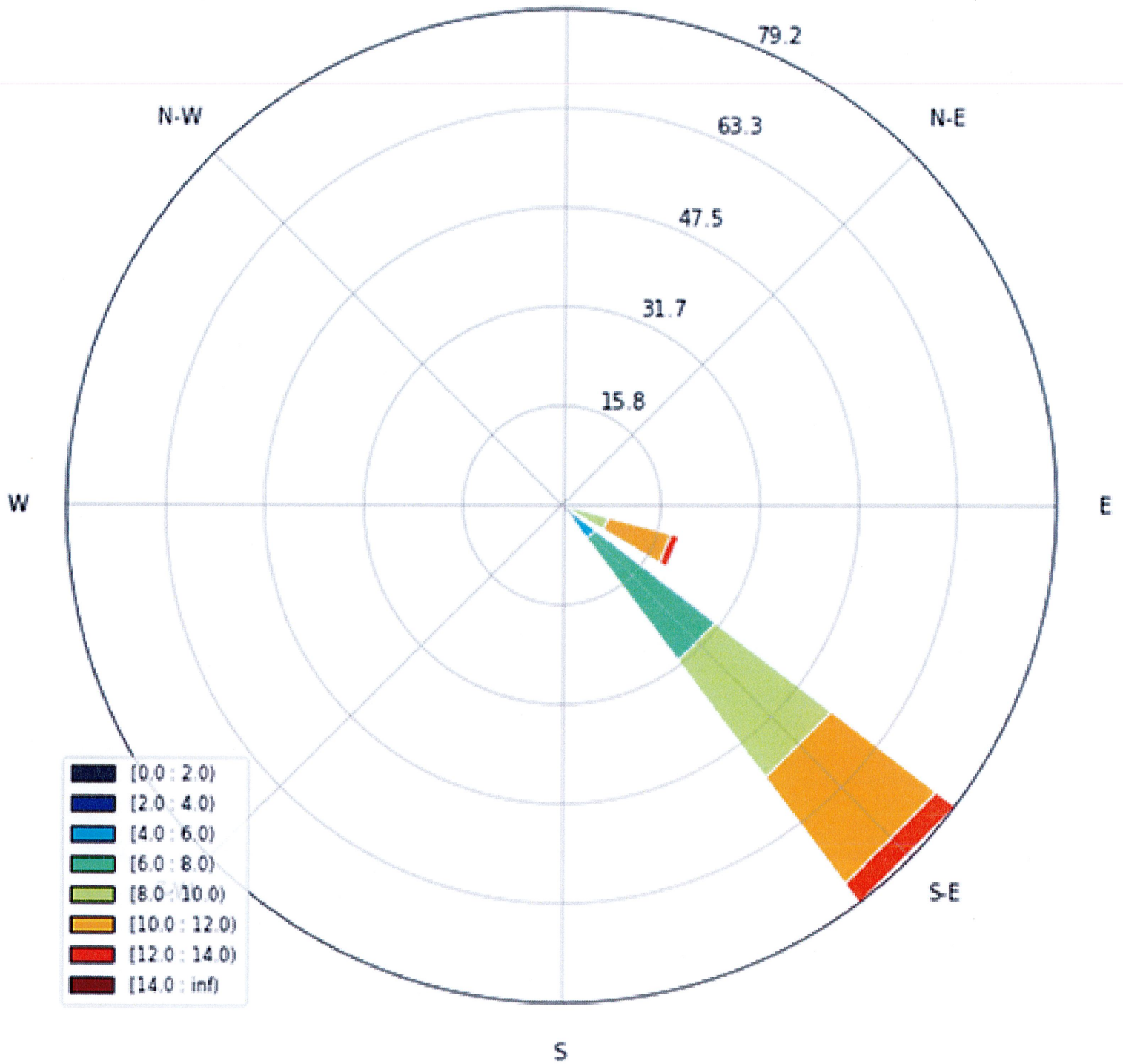
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FPC: June 19 2019

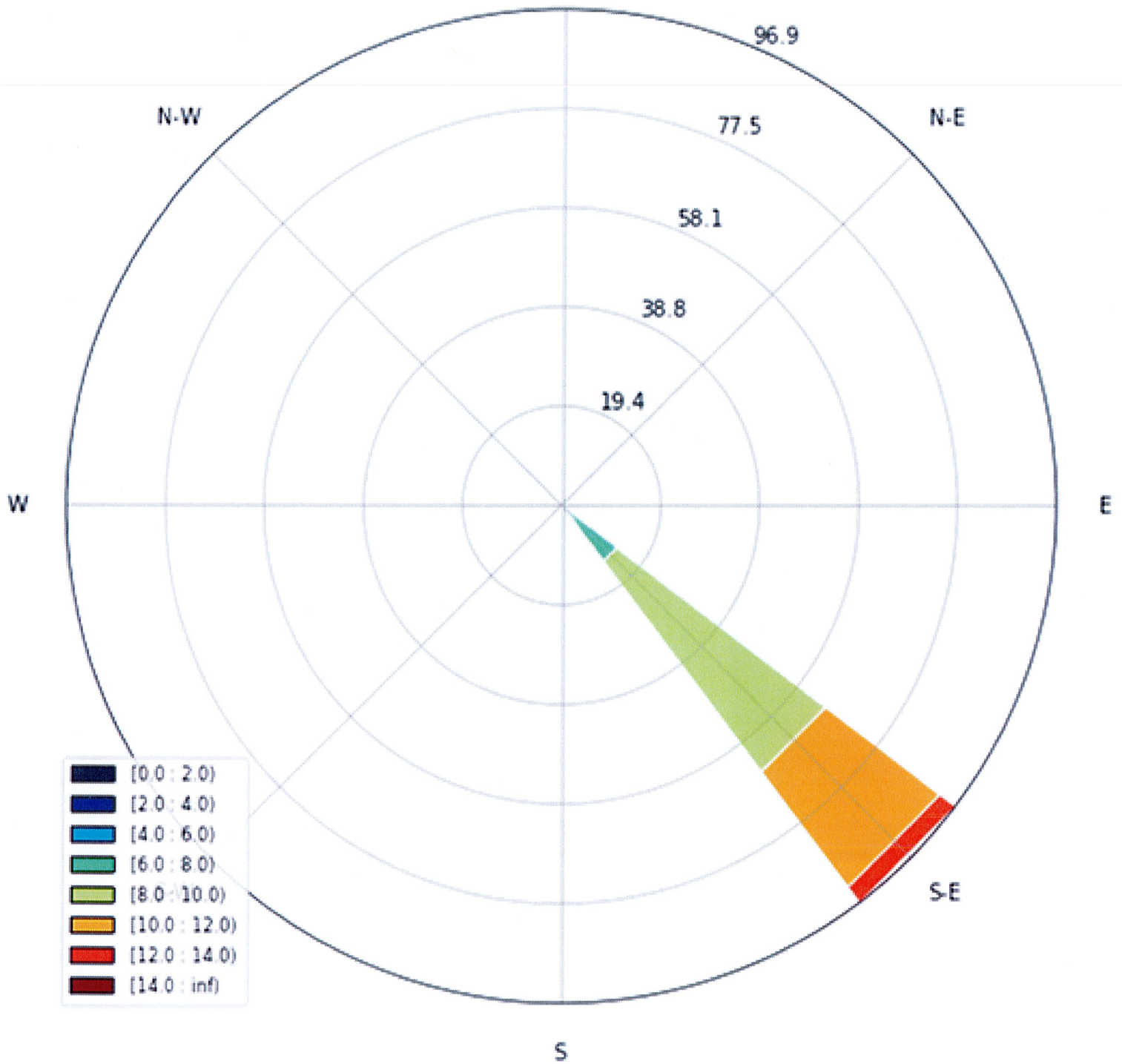


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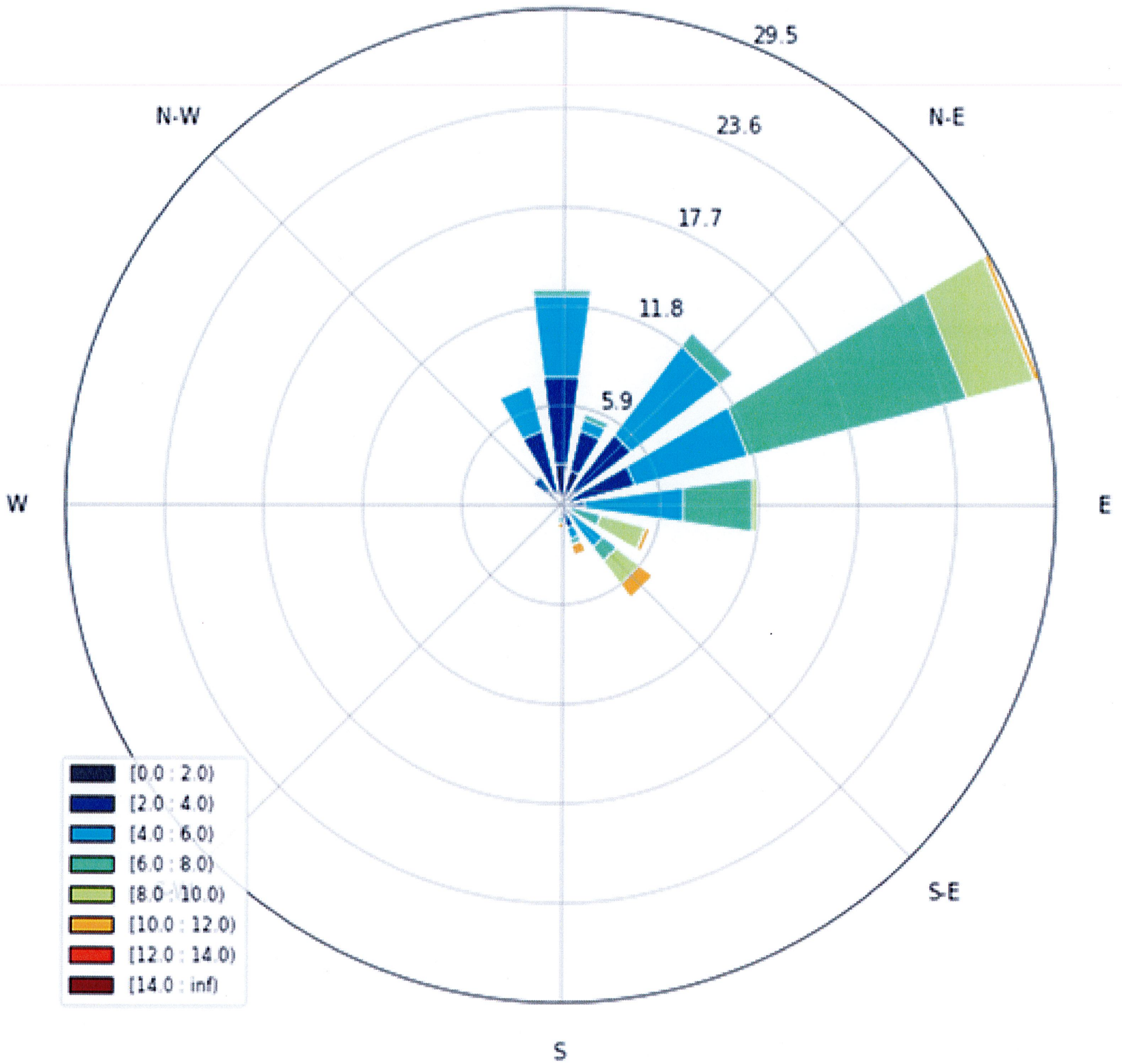




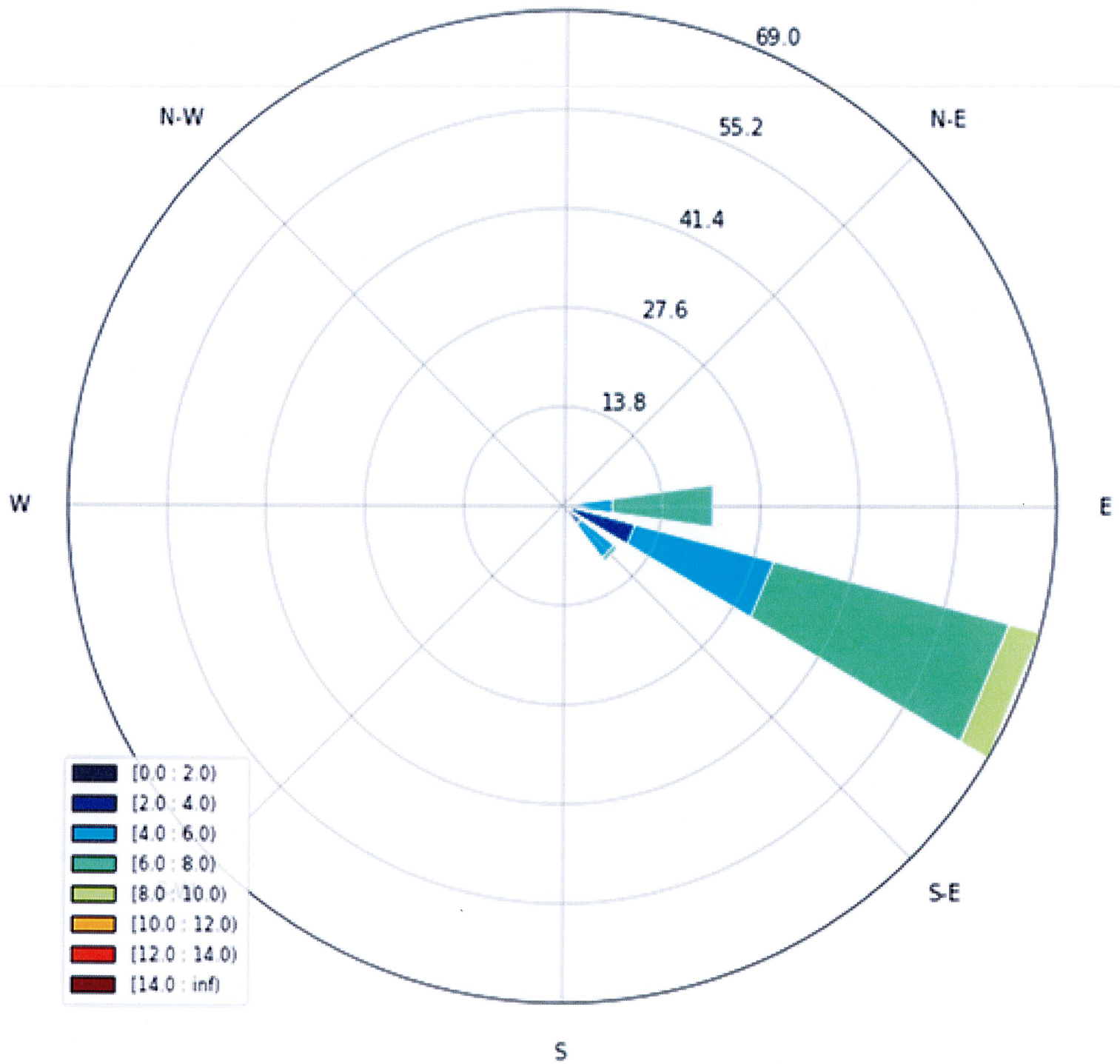
FPC: June 23 2019



FPC: June 25 2019



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